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***Hold Thou Thine Own***

*The jewel that is thine may have a flaw,  
The gems thou enviest may harbor more.  
Think not the fairest flowers grow on further trees  
But let those close at hand thy fancy please.*

*That which thou hast at least is all thy own;  
Things thou desirest, won, like bubbles blown  
Oft prove but iridescent nothings, so  
"Stick to the substance, let the shadows go."*

*Things worth thy while are those that have been tried;  
The best that Earth affords is at thy side.  
Distance may lend enchantment to a view  
And those thou enviest most may envy you.*

G. H. C.

March, 1924

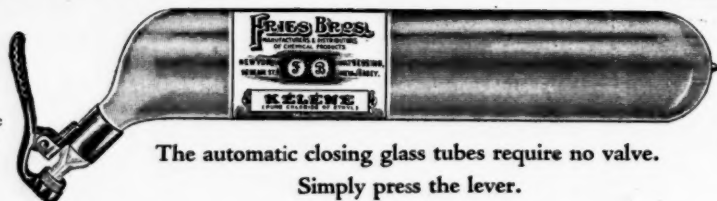
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# *The American Journal of* **CLINICAL MEDICINE** *Dependable Therapeutic Fact for Daily Use*

Vol. 31, No. 3

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## The Influence of Fear in Difficult Labor

IT is often said that physiological labor seems to have gone out of fashion and that the process of giving birth has become so difficult or, turning it the other way around, that our women have become so little suited to carry out this function that, in the words of Doctor DeLee, labor is no longer a physiological process but has become a pathological one. This is given as a potent reason for the increasing custom of sending pregnant women to the hospital for confinement.

Writing in *The Nebraska State Medical Journal* (February), Dr. Inez C. Philbrick contradicts this view of the question flatly and claims that the process of labor at the present day is no less physiological than it has been in the past and that it has been made pathological largely through the agency of obstetric physicians who think in terms of pathology and have imbued their pregnant clients with a fear of possible untoward happenings. Doctor Philbrick is convinced that the emotion of fear, engendered in the patient by the teaching and practice of the medical profession and in the medical profession by the teaching in the medical school,

is a very large factor in accounting for the apparent increase in recent years in obstetric pathology. She claims that "it is not that women are becoming incapable of bearing children naturally; it is that the medical profession will not let them. A profession taught the pathological nature of obstetrics, thinking pathology, practicing pathology will necessarily find pathology."

In Doctor Philbrick's opinion, since it has been proven that fear and allied emotions stop the secretion of saliva, gastric juice, pancreatic juice and bile, it is reasonable to suppose that it can interfere with the secretion of the pituitary gland. Fear causes an outpour of adrenin which is antagonistic to pituitrin. If fear stops the motor activities of the stomach and the bile, it may be supposed that it has the same influence on the uterus, this being supplied by nerves from the same division of the sympathetic.

In repeated instances, Doctor Philbrick has found that, having decided upon the use of forceps and having told the patient that she would be fully anesthetized and would feel no pain, that she would be in no danger—the

child was expelled with two or three vigorous pains, evidently because some inhibiting force (fear) had ceased to act. In other cases, after seemingly interminable waiting, dilatation has gone on rapidly under full ether anesthesia or morphine, given temporarily to rest the patient.

Doctor Philbrick severely criticizes the various methods of interfering with the normal (physiological) termination of pregnancy by bringing on labor artificially, whether by cesarean section or by forced accouchement. She also deprecates the practice of forcing pregnant patients to enter hospital—for normal labor, for forceps delivery, or simple procedures like removing a retained placenta, cleaning out retained fragments after operation, etc. She contends that all this has a tendency to produce in the patient a mental state of dread and anxiety rather than that feeling of safety that is essential to normal physiological action.

All this interference with the physiological processes, and especially the hospitalization, has so far not resulted in a reduction of maternal mortality. The major blessings of surgery, namely, aseptic technic and narcosis, have probably been instrumental in saving lives. However, this benefit "has been nullified by their having made possible the present-day operative orgy. They have made interference temporarily comfortable for the patient, have shortened the doctor's labors, and increased his fees."

This orgy of operative interference, Doctor Philbrick asserts, must cease if women are again to be given the right and privilege of bearing their own children, if they are to be given the feeling of safety, thereby restoring normal physiological action.

The doctor decries hospitalization in obstetrics which she calls wrong in principle and disastrous in practice. Women should be delivered in their homes, save in a very small minority of cases—in those presenting serious obstetrical complications or those who have inadequate or not decent surroundings in the home—barely ten percent of all cases. The hospital, especially the strictly maternity hospital, is too well equipped for surgical interference and offers too much of a temptation to the medical attendant. In Doctor Philbrick's opinion, hospitalization of all obstetric patients is a confession of professional incompetency.

As a reverse to all these sins of commission that Doctor Philbrick castigates, she admits that, fortunately, the present trend on

the part of the ablest in the medical profession is toward the older, simpler and well-tried methods in dealing with the inevitable obstetric complication. For example, depending upon reduced metabolism, increased elimination, and sedation, in eclampsia, rather than upon forced delivery; packing rather than cesarean section for placenta previa; non-interference in sepsis, save exploring the uterine cavity and removing any retained fragments with the finger; and so forth. . . . "If we do away with pathological obstetric practice, we must outlaw the self constituted obstetric specialist, trained in pathology, thinking pathology and too often commercially minded."

And now comes the conclusion of the argument that superficially may seem logical, but which, in our opinion, is destructive. Doctor Philbrick declares that, if we are to return to the physiological conduct of labor, we must put the practice of obstetrics upon a non-commercial basis, upon a professional basis, as is public education. . . . We must have state medicine with the strictly maternity hospital for those who can not be safely delivered in their home and a standardized normal procedure, to be departed from only on the recommendation of a consultant staff.

In other words, the Sheppard-Towner Bill, or something worse.

We are sorry that Doctor Philbrick's jemiade has led her to such an unfortunate conclusion. State medicine, of all things, is a most damnable invention, as our colleagues in England, Germany and Austria have found out, to their sorrow and grief. To attempt to foist it upon an American public, betrays a mental attitude, a process of reasoning that we can not but deplore. It would be a fine thing if, state medicine being established, every pregnant woman were obliged to let herself be card-indexed and classified and have a panel doctor assigned to her whether she wanted him or not.

Sometimes we can sympathize with the attitude of Louis XV when he said, *après nous le deluge*. We are tempted to congratulate ourselves upon the fact that our advancing age relieves us of the necessity of submitting to the regulations and tribulations of state medicine, if that fearful institution should ever be inflicted upon our people.

There is much in Doctor Philbrook's preaching to which we subscribe, even though she paints her picture in rather lurid colors, but—state medicine as a remedy—the gods forbid!



### A MEDICAL UTOPIA

*The Medical Times* (London) for January refers to an article entitled "A Medical Utopia" that had appeared in *The English Review* for January. In this article, Dr. F. G. Layton calls attention to the hard lot of the present-day general practitioner, who plays a lone hand, is overworked and underpaid (if paid at all) and has little or no time for recreation. What is the remedy? The author's suggestion is, that a scheme should be devised whereby men will be encouraged to work in groups—in teams. "Under some such system the doctor would no longer be a lonely man, playing a lone hand. He would be one of a team, all pulling together; all putting their weight into the common pull. There would be no difficulty as regards consultations, for the members of the team would consult as a matter of course. There would be no difficulty about nights off, for the work of the team would be arranged so as to allow of times off. And every team might be put in touch with a laboratory man, an x-ray man, every sort of special man." Dr. Layton is frankly optimistic about his suggestion and writes convincingly.

We have here an adaptation of the group-practice idea that has much in its favor. It is very true that playing the lone game, as it is usually the fate of the physician in general practice, is indeed a lonesome and often discouraging matter. Tied to one's work for twenty-four hours each day, never being able to plan for special work, for recreation, for postgraduate work, for vacation—it often gets rather hopeless.

If, in small towns, several physicians could agree to agree, if they could adjust their differences in such a manner as to still be able to work together and if they could arrange their practices on some sort of a cooperative plan, there can be no doubt but what many advantages would accrue not only to the medical men concerned but also to their patients. You see, in such a group it would be quite logical that one would develop more in questions of internal medicine; another one would have a leaning to surgery; another one would develop his knowledge of eye, ear, nose and throat diseases and his dexterity in treating them, and so forth. At the same time, a suitable balance would be given by the fact that, originally, all these practitioners were general practitioners and by the additional fact that they continued to be so more or less.

Certain it is that, under such an arrangement, each physician could have at least one

evening off a week on which he could definitely count, he could have a day off once a month and a sure-enough vacation once or twice a year. Each one could go away for a rest or for postgraduate work; they could make their provisions for study, for reading books and journals; in short, the possibilities for benefits would be immense.

All of this means that the clientele of all the physicians together would benefit largely because they would surely be taken care of to the best of the ability of all concerned.

We confess that we are rather sold on this group idea. It may be that we are too theoretical about it and that we pay too little attention to the frailties of human nature. But, is it not possible that grown men, educated physicians, could forget and overcome little personal jealousies, little inclinations to get the best of the other fellow, little tendencies to feel resentment at somebody else's success; is it quite impossible for a group of physicians to practice together in amity (we do not say *live* together—the doctors' wives have to do that), to work together and to distribute the emoluments on an equitable basis?

If we consider that every single problem that ever confronts us has its pros and cons, its lights and shadows, its advantages and disadvantages, it seems as though the undesirable features could be overcome and adjusted by a little good will, a modicum of good sense and by the exercise of the spirit of fairness.

There is another thing. Groups of medical practitioners as outlined in this article would help to confirm the medical profession as a whole in the popular estimation. They would counteract hostile influences from without and would make it possible for physicians to do the work in behalf of the public that they want to do.

Only the high-grade person can do high-grade work.—M. S. Dugden, Librarian Milwaukee Public Library.

### LIFE AND PROBLEMS UNDER A MEDICAL UTOPIA

The reformers and uplift artists whom we have always with us have often painted in glowing colors the benefits that would accrue to the dear peepul and even (incidentally) to the physicians through the establishment of state medicine or of similar methods through which medical practice would be regulated through a medical autocracy in part and, it is to be feared, still more through a lay bureaucracy. Various satirical articles have been published in medical literature, in the

last few years, drawing rather horrible pictures of what would be the state of affairs under such conditions. One of the most recent ones was fathered by Carr and published in the *Lancet* (London) for May, 19, 1923. Dr. Victor C. Vaughan has abstracted Carr's views of a medical utopia in *The Journal of Laboratory and Clinical Medicine* for July 1923. We utilize this abstract because our own copy is in the bookbindery—a frequent occurrence, just when you want a certain journal.

Essentially, Carr's descriptions of the alleged utopia do not differ from those of others, and we do not need to repeat them. However, his concluding remarks, in which he does not indulge in satire, but employs straight, everyday English, are so true that we will reproduce them in the following. It will be perfectly easy to substitute "America" and "American" for "England" and "English." Conditions would be the same here as they would be in England. Fortunately, we have not been committed to government regulations quite as seriously as are our English colleagues. Our sole protection against the growing tendency toward state and nationalized medical practice in our own country is prophylaxis consisting in unrelenting and unceasing watchfulness and in constant and continued fight against all attempts to interfere with the methods and the privileges of reputable medical graduates. Carr's important conclusions, to which we have referred, are as follows:

"Probably the greatest danger under a medical autocracy would be that of loss of freedom. A distinguished ecclesiastic once caused a grave scandal by saying that he would rather see England free than England sober. I think he was right, and I believe it would be equally correct to say that he would rather see England free than England perfectly healthy. A despotism may be theoretically the best form of government if the ideal despot can be found, but he never can be, for human nature is so constituted that the mere fact of entrusting absolute power to an individual or a group of individuals soon renders them unfit to exercise that power over their fellow creatures. A medical despotism would be no exception to the rule. It is no sufficient answer to say that medical government would be necessarily in the best interests of the governed. A man's conception of what is best for his fellows may be absolutely disinterested and honest, his intentions may be wise and unselfish, but his conclusions and decisions may be erroneous; although, the more con-

vinced he is that he is doing right and that he is actuated by the highest and noblest principles, the more likely is he to become a tyrant. The exercise of uncontrolled power is almost always a cause of demoralization, and conscientiousness has to account for some of the darkest chapters of human history."

Kindness has converted more sinners than either zeal, eloquence, or learning.—F. W. Faber.

### THE PROBLEM OF LOCAL URETHRAL ANESTHETICS

At the last meeting of the American Urological Association held at Rochester, Minn., in May, 1923, Dr. Alexander Randall (*Jour. Urol.*, Dec., 1923, p. 503) reported on the results of a questionnaire regarding the problem of urethral anesthesia in this country. He referred to the fact that, on two occasions, very animated discussions were held in the French Urologic Association and that many of the urologists present expressed great fear of cocaine.

As to the drugs used by American urologists, cocaine, novocaine, procaine, apothesine and alypin represent practically the entire choice, some few preferring the addition of adrenalin to their solutions.

Doctor Randall was told categorically by fifty-three men that they will not use cocaine; eighteen others who used this drug until recently have discarded it completely. Contrariwise, there are eight who employ cocaine exclusively as a urethral anesthetic and twenty-seven others use it or some other newer synthetic drug.

In the replies to Doctor Randall's questionnaire, there were records of six deaths from the urethral administration of a local anesthetic, five being due to cocaine. There are thirty-eight cases of alarming intoxication from the same procedure, twenty-five of the thirty-eight standing in relation to cocaine. Although, in every case, the drug was used to aid urethral instrumentation, immediate collapse in three cases precluded the introduction of any instruments.

[We wish to interpolate here a question as to the necessity of attributing the collapse either to cocaine or to another local anesthetic used. We are informed that, in animal experiments in monkeys, the first convulsion after a fatal subcutaneous dose of cocaine occurred after the lapse of six minutes. It is true that very rapid absorption may occur from the inflamed urethral mucous membrane. Still, as has been pointed out in the discussion follow-

ing Doctor Randall's presentation, symptoms of intoxication after urethral manipulation are just as often due to shock, and, undoubtedly, can not always be attributed to the anesthetic.]

Doctor Randall cited several urologists and teachers to the effect that they do not consider any anesthetic necessary in urethral instrumentation. Their objection seems to be based mainly upon the fact that, in case of stricture, "the loss of sensation lures the operator on to misguided efforts and unhealthy mucous membrane possesses rapid and dangerous powers of absorption." This point was referred to during the discussion also, but it was pointed out that, when physicians happen to be on the operating table, they like to have means taken to obviate the pain. It is true that, when sensation is dulled, manipulation and instrumentation *may* cause harm, but it is fully realized that, in the urethra as elsewhere, a gentle, yet sure, dexterity and delicacy of touch is a first condition, not only for accomplishing necessary interference but also for avoiding harm.

The discussion before the American Urological Society, to which we have referred, appears to have had very much the same result as that before the French society. Cocaine has its staunch friends and its bitter enemies. There are some patients who seem to be peculiarly sensitive to its action and, unfortunately, it is impossible to tell in advance whether a certain patient is intolerant.

[Recently, after observations with butyn in nose and throat work had been reported, it was suggested that this new synthetic local anesthetic be used in the urethra, and several urologists were requested to investigate its merits. We are not aware of any formal report of the results having been published at any time. However, we were informed, through personal communication, that the instillation of butyn in the urethra facilitated instrumentation greatly and that it was held to be equal to cocaine in its anesthetic power and superior to it because of the lesser danger. It seems to us that butyn might prove of advantage, in urology as in rhinolaryngology, because of the following reasons:

- 1.—It is more powerful than cocaine, a smaller quantity being required.
- 2.—It acts more rapidly than cocaine.
- 3.—Its action is more prolonged than that of cocaine.
- 4.—Experience suggests that butyn in the quantity required is less toxic than cocaine.
- 5.—It produces no drying effect on tissues.
- 6.—It has no ischemic effect and therefore

causes no shrinking of tissues.

7.—It can be boiled without impairing its anesthetic efficiency.

We should like to hear from those of our readers who have had experience with butyn in the urethra, or on any mucous membrane elsewhere in the body, regarding their results and observations. In proper dosage, butyn appears to be quite safe and we have no knowledge of individual susceptibility to it as it is observed sometimes to cocaine.]

If you have knowledge, let others light their candles at it.—Fuller.

### OBSERVATIONS IN NON-SPECIFIC PROTEIN THERAPY

The possibilities of non-specific protein therapy have been discussed more or less in the pages of CLINICAL MEDICINE. A good many of the articles dealt with observations made abroad. *The Ohio State Medical Journal* for February contains a report of results obtained by this method of treatment in this country, this report being communicated by Dr. Carroll DeCourcy, of Cincinnati. It goes without saying that in no case was the non-specific protein therapy resorted to to the exclusion of removing the fundamental cause of illness. It was invariably employed as an ancillary method of treatment.

Fifty-six cases of *acute arthritis* were treated, terminating the disease in fifty percent of the cases with two injections. The remainder showed continuous improvement and recovered with continued treatment, receiving on an average of from five to seven injections. In terminating an acute arthritis abruptly, we lessen the possibility of cardiac complications and number of chronic arthritis cases; one or two injections disclosing whether or not the treatment is to be effective. The number of cardiac complications in the early treated cases was practically nil.

Twenty-two cases of *subacute arthritis* treated, first eliminating possible foci, were definitely improved and six completely cured.

Two cases of *gonorrheal arthritis*, that had been in bed and under various forms of treatment for months, were relieved very rapidly and were able to move around without assistance in two weeks' time.

Twenty-eight cases of *chronic arthritis* with ankylosis and exacerbations saw the acute symptoms subside rapidly with several injections.

The results in the chronic cases were un-

satisfactory as would be expected, owing to ankylosis and persistence of foci, but, in a number treated, the euphoria resulting and the patient being less helpless, justified its use.

*Buboes* responded very rapidly to this form of treatment. Eighteen cases, treated by injections made into buttock, subsided rapidly and incision was necessary in only two cases (these being advanced to beginning suppuration before treatment was instituted). As a rule, three to four injections were used.

*Epididymitis* offered striking results; fourteen cases treated; nine were not put to bed, pain usually beginning to subside twelve hours after first injection, swelling decreased rapidly, and not more than three injections necessary for complete relief of symptoms. The diphasic character of the reaction was very marked in these cases, the increase in the symptoms lasting usually up to the tenth or twelfth hour.

*Prostatitis.* Six cases treated with rapid improvement, the swelling subsiding within 24 hours after first injection and never more than two or three injections given.

*Gonorrheal urethritis.* A number of cases were treated, but local treatment was also used. It was observed, the ones that reacted to the stimulation showed mild symptoms and recovered more rapidly.

*Adrenal inflammation.* Dr. Giles DeCourcy treated fifteen cases of ovarian and tubal disease, the pain subsiding after one injection. All the cases were improved rapidly, few receiving more than four or five injections.

*Neuritis.* Two cases of tic douloureux were markedly relieved, one for two months and another for five and one-half months. Six cases of sciatica made rapid recoveries, the pain being relieved in about eight hours.

*Secondary anemia.* Three cases treated showed increased counts.

*Angioneurotic edema.* Four cases treated. Regarding it as an anaphylactic reaction (which it undoubtedly is) first removing foci, it was possible to arrest the symptoms after continued injections. At no time did they seem sensitive to protein shock.

*Purpura.* Two cases of idiopathic purpura were observed to clear rapidly with small injections (3 of 5 Cc.) being given three days apart. The blood examined before starting treatment did not show any delayed coagulation; in both cases, there was a slight leucocytosis before treatment, due to an increase in the polynuclear neutrophils; both cases suggested an anaphylactic-like cause. That the milk injections have an effect on the smaller

blood vessels has often been noted. It would seem that the permeability of the capillaries is altered by these injections.

A *pyelitis* of two months' standing following a pelvic abscess which had been drained, cleared with three injections.

Four cases of *non-sensitive asthma* were treated with no results, each receiving three injections. There were no unfavorable symptoms in three patients but, on giving the third injection to the fourth patient, he developed a vascular dilatation which required an immediate injection of adrenalin to relieve. The extreme sensitiveness to protein shock in this type of patient should make us very guarded in a use of therapy of this kind.

Two cases of *facial erysipelas* showed a marked subsidence within 24 hours, also the general condition of the patients improving rapidly.

Four *chronic-diphtheria* carriers treated, two reacting strongly, had negative cultures within four days; the remaining two, although reacting, continued positive. It was felt that the reactions in the last two were not sufficient, but therapy was not continued after two injections.

Doctor DeCourcy does not believe it possible to arrive at any definite conclusions regarding the usefulness of the method. Continued study is required. However, he is convinced that injections should be given early in the disease and that a clinical reaction is necessary if results are to be obtained. The most satisfactory results seem to follow the more severe initial reactions. The method is comparatively safe and has few contraindications. However, the question must always be determined, whether the patient will be able to stand the strain of reaction. Doctor DeCourcy has used different vaccine mixtures with results apparently equal to those obtained from non-specific protein activation.

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One thorn of experience is worth a whole wilderness of warning.—Lowell.

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#### "THE CHEMOTHERAPY OF ORGANIC ARSENICAL COMPOUNDS"

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Our readers will remember an article appearing in *CLINICAL MEDICINE* for January, 1923, entitled "Chemotherapeutic Development in the Treatment of Syphilis," in which Dr. George W. Raiziss gave a very instructive account of work that had been done mainly with arsenical remedies. Quite recently, Doctor Raiziss, in association with Dr. Joseph L.

Gavron, published a more detailed and technical communication, entitled "The Chemotherapy of Organic Arsenical Compounds," which was reprinted from the monograph "Organic Arsenical Compounds," published by The Chemical Catalog Company, New York, under the auspices of the American Chemical Society. Copies of this reprint can be obtained on request from the Dermatological Research Laboratories, Philadelphia, Pa.

It contains a general review of chemotherapeutic experiments, after which a large number of arsenical compounds are discussed in detail. Physicians interested in the scientific aspect of arsenic chemotherapy will gladly avail themselves of this offer.

### ECONOMIC CAUSES OF DISEASE. SINGLE TAX

Surgeon General William C. Gorgas of the United States Army, whose invaluable services to humanity in the cause of sanitation are well known throughout the civilized world, was deeply interested in scientific taxation.

If his knowledge of medicine produced such wonderful practical results, may we not learn something from him about taxation, a subject in which he was almost equally interested?

The following address was delivered by General Gorgas at a business men's club in Cincinnati:

"The last twenty-five years have witnessed an enormous interest in all kinds of welfare work. The physician, the engineer, the pathologist, the bacteriologist, the sociologist, the economist, the social worker have each in turn attacked the problems of social hygiene. The result has been the accumulation of a mass of facts invaluable for the comfort and safety of mankind. But, however varied the fields of the workers may be, at one point they all converge at last. Every one of these workers, who looks beyond and beneath his own particular field, every one who ponders on the primary causes of disease, of vice, of alcoholism, of feeble-mindedness, every one who, in other words, brings his scientific imagination as well as his scientific knowledge to bear upon this problem, is finally forced into the conviction that underneath all obvious and immediate causes there lies one great, general and determining social cause—Poverty."

"Of what use," says the tuberculosis expert, "to send a patient to a sanatorium and perhaps cure him, only to return him to the slums?" "Of what use," says the temperance

advocate, "to preach temperance when overworked and underpaid labor must needs seek surcease of sorrow in the saloon?" How telling and how biting the reply of the London city missionary when found fault with for not saving more souls: "If you will fill their stomachs with food, I will fill their hearts with the love of God."

"Sanitation in my mind has been very closely associated with single tax. I am a single-taxer, I think, because my life work has been that of sanitation. Sanitation is most needed by the class of people who would be most benefited by the single tax. That poverty is the greatest single cause of bad sanitary conditions, was very early impressed upon me.

"If I should again go into a community, such as Cuba or Panama, and were allowed to select only one sanitary measure, but were at the same time given power to choose from all sanitary measures, I would select that of doubling wages. This, in my case, is not altogether theory. In our tropical possessions, in Cuba, Porto Rico, the Philippines, Panama, the result has always come about that we have largely increased wages; the result has also come about that, in all these cases, we have greatly improved sanitation. At Panama, the Commission found that, in order to attract labor and keep it on the Zone, they had to increase and, within a very few months, double the wages of the manual laborer. It does not take more than a moment of thought to show to you how such a measure acts and reacts. Results take place in many directions, but particularly with regard to increasing the ability of the people to live well and get better food and better clothing.

"While dwelling upon thoughts such as these, I came across Henry George's "Progress and Poverty." I was greatly impressed by the theory and was soon convinced that the single tax would be the means of bringing about the sanitary conditions I so much desired and was striving for. It was impressed upon me in a concrete form everywhere, in the United States, in the tropics, and particularly in Panama, the great benefit that such a scheme of taxation would confer upon sanitation.

"In a city, such as Panama or Havana, the vacant lots and unimproved neighborhoods were the localities which always gave us most sanitary trouble. I was soon convinced that, if any scheme were brought about whereby it would be disadvantageous for speculators to hold vacant places out of use, this scheme would be of the greatest value for sanitation. It was not possible to effect this change in



method of taxation in the cities referred to. I discussed this method of taxation a good deal with the officials of Panama, urging upon them the desirability of a tax levy of this kind to cover expenditures brought about by the sanitary work. I finally got the Panama authorities around to the point of seeing the justice and advisability of such methods; but the organic law would have to be changed and this always takes time. I hope that something of the kind may yet come about in Panama.

"The real scope of tropical sanitation, which has been almost entirely developed within the last fifteen or twenty years, I believe, will extend far beyond our work at Panama. Everywhere in the tropics, to which the United States has gone in the past fifteen years, it has been shown that the white man can live and exist in good health. This has occurred in the Philippines, in Cuba and in Panama, but the demonstration has been most prominent and spectacular at Panama and, therefore, has attracted there the greatest world-wide attention. Here, among our large force of laborers, we had for ten years some ten thousand Americans—men, women and children. Most of these American men did hard manual labor, exposed to the sun, rain and weather conditions, day in and day out, just as good as if they were working at home. The same remark as to health would apply to the four thousand women and children who lived at Panama with their husbands and fathers. Both, the women and children, remained in as good condition as they would have been had they lived in the United States. This condition at Panama, I think, will be generally received as a demonstration that the white man can live and thrive in the tropics. The amount of wealth which can be produced in the tropics for a given amount of labor is so much larger than that which can be produced in the temperate zone by the same amount of labor, that the attraction for the white man to emigrate to the tropics will be very great, when it is appreciated that he can be made safe as to his health conditions at a small expense. When the great valleys of the Amazon and of the Congo are occupied by a white population, more food will be produced than in all the rest of the inhabited world.

"But, unless we can so change our economic laws, that this wealth will be more fairly distributed than it is now by the races occupying the temperate zone, mankind will not be greatly benefited. I hope and believe that, ere this change in population comes about, the single tax will have caused such changes in

our economic conditions that wealth will be fairly distributed. I mean by fair distribution that condition in which each man gets exactly what he produces—no more, no less. This is all we single-taxers ask. We do not wish any man to have a dollar more wealth than he himself has produced, or to take from any other man a dollar of the wealth that this other man has produced. We look forward to this time as not being so very far off, and when such time arrives, we believe that poverty will be abolished from this world, except in so far as there will always be some lazy individuals who will not work and who do not care to produce. But this number will not be so large as to affect the general principles just enunciated."

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It isn't what we are anxious to do that counts. It is what we are able to do. It isn't ambition to attain. It is ability to achieve.—M. S. Dugden, Librarian Milwaukee Public Library.

#### CHANCE TO HELP BUSINESS

A favorable report on the Edge-Kelly bill now being considered by committees in the Senate and House at Washington means so much to every business house in the United States that immediate action is desirable. By writing to Representatives W. W. Grist, Nicholas Longworth and C. D. Page, and to Senators Thomas Sterling and Henry Cabot Lodge everyone interested in good mail service can aid in impressing Congress with the importance of the bill.

The Edge-Kelly measure provides for minimum pay of \$2,000 per annum for letter carriers and postal clerks. They deserve the increase. Inadequate service means a momentary loss to business men. The postal facilities in large cities have been badly crippled by the loss of efficient men, who have found it necessary to find more lucrative employment. Many of these men had been in the postal service for years and had become proficient in many lines of work. High-grade men are no longer attracted to postoffice positions which pay only \$26.92 per week minimum, after three years' service, and \$34.61 maximum. An investigation by Postmaster Baker, of Boston, disclosed the fact that the minimum amount per annum on which a postal employe with four in family can live in a normal healthy, self-respecting manner in the Boston postal district is \$24.36.

Senator Walsh, who has championed the cause of postal employes in Congress, declares that the postal service will soon be self-sustaining at the rate at which the business is

increasing. This means that the larger appropriation necessary for the extra allowance would soon be absorbed. Why not aid the movement by writing your views to the Senators and Representatives having charge of the Edge-Kelly bill designated as S. 1898 and H. R. 4123, pointing out how necessary an efficient postal service is to your business. The only way to make it efficient is to employ capable men, and they can be obtained only when the pay is attractive, or at least adequate.—From *Drug & Chemical Markets*, Feb. 6, 1924.

### COFFEE DRINKING

The habitual use of coffee as a beverage has long been condemned, especially by Homeopathic physicians and also by physiologists who have based their conclusions upon the effects of caffeine in experiment animals. This antagonism, not only to coffee but also to the cup that cheers (tea), has found its way into textbooks on dietetics and, on reading, for instance, Robert Hutchison ("Food and the Principles of Dietetics"), one believes that one's long-established coffee habit, even though it consists only of the breakfast cup of coffee, is foolish to say the least. It is said, for instance, that tea and coffee both retard peptic digestion, and there is small comfort in the information that the digestion of white of eggs, ham, salt beef and roast beef was much less affected than that of lamb, fowl or bread. Fortunately, coffee seemed actually to aid the digestion of eggs and ham and, thus, there may be an excuse for the coffee at breakfast when this consists of these articles.

J. H. Kellogg ("The New Dietetics." See p. 72 of the January issue of *CLINICAL MEDICINE*.) is even more uncompromisingly antagonistic to coffee and condemns it absolutely, as well as its congeners, tea, cocoa and especially coca cola.

Under these circumstances, a report will be of interest that deals with certain investigations, the results of which tend to show that coffee is not the vile hell broth that some would have us believe, but that there is actually considerable merit in it. The report found on p. 195 of this issue of *CLINICAL MEDICINE* will be read with interest by many and it may cheer them to think that they may continue with their coffee-drinking, providing that it does not palpably interfere with their health.

In this, as in many other things, the exercise of a modicum of common sense seems to us to be indicated. If Nansen (Kellogg, *l. c.*, p. 485) has been led by his experience to take a decided stand against the use of stimulants and narcotics of any kind, from tea and coffee to tobacco and alcoholic drinks, and if he declares justly that it must be a sound principle that one should live in as natural and simple a way as possible, *especially when life is a life of severe exertion in an extremely cold climate* (italics are ours)—one should always remember that circumstances alter cases and that the conditions of the life that we are forced to lead must govern our habits, at least to a certain extent. True, it is very desirable that one should lead as natural and simple a life as possible. However, the "as possible" contains the hitch. How can you lead an entirely natural and simple life in Chicago, in New York, St. Louis, or even in Philadelphia? How is it possible to hold one's place in the turmoil of our modern daily life and live naturally and simply? The thing can not be done!

As a matter of fact, we live under highly artificial conditions and must adjust our habits in such a manner as to "stand the gaff," in spite of the unnatural and anything but simple circumstances under which we live, work and have our being.

I do not mean to say that we should obtund our sensibilities or dull the edges of our intellects by narcotics, but I do believe that the reasonable and moderate indulgence in a gentle stimulant like coffee or tea makes it possible for us to maintain our ability to cope with the difficulties of our daily life. By moderate indulgence, I mean, as far as I personally am concerned, one or two cups of either tea or coffee a day. It is true that many people consider two or three cups at a meal, three times a day, moderate. I must confess that I do not agree with that kind of moderation. It would mean a minimum of six cups of coffee a day. Considering that each cup contains from  $1\frac{1}{2}$  to 2 grains of caffeine, that would involve a daily dose of that potent alkaloid of from 9 to 12 grains per diem. That, I apprehend, would, in time, inevitably obtund the sensitive nerves, while they would stand the gentler stimulation of from 3 to 4 grains a day with ease.

I may be begging the question, and I may make excuses for a habit that I know to be not natural (I refuse to call it unnatural), simply because I like it. I admit the impeach-

ment, but I plead, as before, the necessity of living under circumstances and conditions that are not natural and, for that reason, remedies may be defensible that are open to objection—if you want to put a fine point on it.

On the other hand, there may be comfort to the friends of coffee in the undoubted fact that, at least some of the antagonism to coffee and a good deal of its condemnation is dictated by motives that are far from being disinterested: We remember the advertising slogan of a certain coffee substitute: "There's a reason." That substitute is surely harmless and undoubtedly nutritious; also, to many palates, it is extremely insipid and even objectionable. There are other substitutes, like the decaffeinated preparations which are like Hamlet without Hamlet and Rome without the Pope.

After all, is it quite so necessary or even desirable that we should lead absolutely simple and natural lives? I venture to say that such a thing is not found anywhere on God's foot stool, not even among the aborigines and alleged savages. These delightful "children of nature," all of them, have found means to overcome the tedium of "natural" existence, that help them to kick over the traces in some way or another. It may be a heretical observation, but it seems to me that it is not in man to be natural, nor does the simple life appeal to us when it means giving up everything that is pleasant. What's the use of living if we ain't got fun?

Another cup of coffee, please.

Science when well digested is nothing but good sense and reason.—Stanislaus.

#### FEDERAL SUBSIDIES

"I take this occasion to state that I have given much thought to the question of federal subsidies to state governments. The federal appropriations for such subsidies cover a wide field. They afford ample precedent for unlimited expansion. I say to you, however, that the financial program of the chief executive does not contemplate expansion of these subsidies. My policy in this matter is not predicated alone on the drain which these subsidies make on the national treasury. This, of itself, is sufficient cause for concern. But I am fearful that this broadening of the field of government activities is detrimental both to the federal government and to the state governments. Efficiency of federal operations is impaired as their scope is unduly enlarged. Efficiency of the state governments is impaired

as they relinquish and turn over to the federal government responsibilities which are rightfully theirs."—[President Coolidge in an address made to executive heads of the government departments, at Continental Hall, January 22.—Copied from *J. A. M. A.*, Feb. 2, 1924, p. 396.]

#### "LIVE ASSETS FROM DEAD TIMBER"

In another department of this issue of *CLINICAL MEDICINE* (p. 193), Doctor Warnshuis gives a graphic account of a recent experience of his, he having solved his housing problem by acquiring an old residence; while he overcame the high cost of building by getting the work done by way of payment for bills owing him from farmers, by helping in the building himself, after having attended to all the planning and buying of such new material as was required.

The lesson is an impressive one. As Doctor Warnshuis says, there must be in many towns and cities old houses in good neighborhoods, that can be purchased for small money and that can be remodeled at an expense far below that that would be required for building new residences. With a little ingenuity, the remodeling can be planned in such a manner as to secure an attractive residence which, at the same time, is comfortable and convenient.

Doctor Warnshuis has not favored us with a photograph of his accomplishment and we hope that he will make good the omission. We print his communication with particular pleasure since it may aid many others in the solution of a problem that often-times is not only urgent but difficult.

#### GRAY HAIR AND GRAY MATTER

One of the "Chips" thrown by *The Journal of the Kansas Medical Society* (Feb. '24) declares that "premature gray hair is caused by excess gray substance in the brain. The roots of the hair have but a short distance to grow down. When the hair turns gray slowly or not at all, it is because of the resistance of the crust from its thickness and hardness resisting the root growth inward, and scarcity of gray matter for pabulum. Over-excess of gray matter causes baldness."

Very good. This particular "Chip" evidently was found in some publication or other, although the source is not given. At any rate, it is set in quotes. Who the deuce ever pro-

[Concluded on page 202]

# Leading Articles

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## The Recognition of Nasal Sinus Infections by the General Physician

By HOWARD C. BALLENGER, M. D., Winnetka, Illinois

IT is unnecessary for me to point out the importance of the relation of the diseases of the nasal sinuses to general health, especially those more or less chronic sinus diseases in which the local symptoms are absent or, if present, are frequently misleading, not only concerning the character of the disease, but so that even the presence or absence of any disease may be questioned. I believe that chronic infections of the sinuses are more frequently overlooked than infections in most other portions of the body. This may be due to, (1) the limited amount of time and study which the undergraduate is able to devote to this subject, (2) the relative inaccessibility of the sinuses without special equipment or training on the part of the physician, and (3) the lack of definite local symptoms in many of the chronic forms of sinus infections.

With the object of having a clear understanding of the sinuses, I will very briefly go over some of the anatomical factors.

### Anatomy of Nasal Sinuses

The sinuses may be divided into two groups or series. Group 1 is made up of the frontal, the maxillary and the anterior ethmoid cells. This group of sinuses drains into the middle meatus beneath the anterior portion of the middle turbinate. Group 2, comprising the sphenoid and the posterior ethmoid cells, drains into the superior meatus above the posterior portion of the middle turbinate. Located on the outer nasal wall, is a comparatively deep, crescent shaped groove, or ditch, called the infundibulum. The median wall of the infundibulum is formed by a shelf-like projection, called the uncinate process. Into the upper and anterior end of the infundibulum, drains the frontal sinus through the fronto-nasal duct. Posteriorly to the opening of the fronto-nasal duct and also

into the infundibulum, is the orifice of the maxillary sinus. A few of the more anteriorly placed ethmoid cells drain into the fronto-nasal duct and the rest of the anterior ethmoid cells drain into or slightly above the infundibulum by one or more openings.

It can readily be seen that any obstructive lesion in the middle meatus is an etiological factor of importance in the production or prolongation of a sinusitis of the sinuses of Group 1. Likewise, an obstructive lesion in the superior meatus, that interferes with drainage and ventilation, may predispose to a sinusitis of the sinuses of Group 2. The obstructive lesions encountered are, hypertrophied middle turbinates, tumors including polypi, turgescient rhinitis, deviated septums, foreign objects, etc.

### Causes of Sinusitis

It may be said, therefore, that the predisposing causes of inflammatory diseases of the sinuses consist largely of an inadequacy of the drainage, or ventilation, of the sinuses due to the various obstructive lesions of the nose.

The exciting causes are the various micro-organisms.

Caries of the root of the second bicuspid and first molar, which sometimes perforate into the maxillary antrum, may produce a maxillary antritis with marked odor but without pain.

The granulomatous or ulcerative processes of syphilis and tuberculosis sometimes invade the sinuses and give rise to inflammatory symptoms.

The pathological changes which occur in the mucous membrane of the sinuses during a sinusitis are those incident to an inflammation of any mucous membrane; namely, congestion and small-celled infiltration with serious exudate, mixed with mucus, bacteria and epithelial debris. The secretions, at first, thin

and watery, later become thick and tenacious. In many cases the inflammation passes from the catarrhal to the purulent type. As the catarrhal or suppurative disease becomes chronic, many changes occur in the bone and mucous membrane of the sinuses. The membrane may have a granular appearance. Polypi may develop in any of the sinuses, although most frequently observed in the antrum and ethmoid cells. The membrane may be ulcerated in spots, exposing the underlying bone which frequently is carious.

#### Acute Sinusitis

The subjective symptoms of an *acute* sinusitis whether in the catarrhal or suppurative stage are:

Pain and headache usually referred to the region of the sinus involved, although in many cases this is not true. For instance, the pain of an acute sphenoiditis or antritis may be referred to the frontal region or the pain from an acute frontal sinusitis may be referred to the occipital region. The pain and headache may be dull, heavy and constant or sharp and shooting. The pain is usually increased when the patient leans forward.

A sense of pressure or fullness between the eyes is characteristic of a frontal or ethmoidal infection. The patient may complain of the same feeling in the cheek or between the eyes when the antrum is involved.

Giddiness and vertigo are sometimes present.

Loss of smell due to the closure of the olfactory fissure is frequently complained of.

Disturbances of the eye, such as photophobia, epiphora, errors of refraction or accommodation, etc., may accompany the sinus disease.

Briefly, the objective symptoms of an acute sinusitis are:

Tenderness upon pressure over the affected sinus. This is nearly always present in the acute stage. In testing the frontal sinus the pressure should be exerted on the floor of the sinus near the inner angle of the orbit, and over the anterior wall, above the supraorbital ridge. The anterior ethmoid cells should show tenderness over the orbital plate of the ethmoid at the inner angle of the orbit. In examining the antrum, pressure should be made over the canine fossa of the superior maxilla.

A mucopurulent or a purulent secretion may be observed in many cases as it emerges from beneath the tip of the middle turbinate or from above the middle turbinate, depending upon whether the sinuses of Group 1 or Group 2 are affected.

#### Transillumination

Transillumination of the face is a valuable aid in diagnosing an empyema of the antrum. Three points should be noted with an infected antrum, namely: (1) The luminous pupil is dim or absent; (2) the intraorbital crescent of light is dim or absent; (3) when the patient's eyes are closed, he does not perceive as clear a sense of light in the eye above the affected antrum.

Transillumination is of less value in diagnosing a frontal sinusitis and of no value in the sinuses other than the maxillary and frontal.

Irrigation of the antrum is frequently resorted to, to determine the presence or absence of pus.

#### Chronic Sinusitis

The recognition of a *chronic* infection or retention of one of the sinuses is more difficult. Many times, the only complaint is the frequency with which the patient "catches cold." A chilling or slight exposure is all that is necessary. This is probably due to a retention of some infection in a few ethmoid cells.

This infection is more or less latent and only flares up under favorable conditions, as, lowered resistance or undue exposure which with an infection-free person would not result in a cold.

The chief symptoms of a *chronic* sinusitis are, the discharge of pus or mucus from the nose and the constant or occasional headaches.

The pus or mucopurulent secretion is usually continuous, although more noticeable in the morning. Frequently, no secretion is complained of during the day.

The pain and headache depend upon the degree of retention. In the chronic form, partial or complete retention does not occur as frequently as in the acute stages. In chronic frontal-sinus empyema, the pain (usually absent) over the temple and eye may resemble a neuralgia. A maxillary empyema may also give a frontal headache, usually unilateral, unless sinuses on both sides of the head are involved.

Chills and fever are rarely present in a chronic sinusitis. They are frequently present in the first stage of an acute sinusitis.

#### X-Ray Diagnosis

The x-ray is a most valuable aid in diagnosing the presence of a diseased sinus. In addition, the x-ray reveals the presence or absence, the location, and the dimensions of the various sinuses a consideration of great value when surgical procedures are contemplated.



If a sinus is diseased or pus filled, its outline on the negative is not clear and distinct and its area is cloudy or hazy. A healthy sinus should appear clear and dark. A polypoid condition is suggested by a mottled appearance; while a thickened or inflamed mucous membrane presents a uniform shadow.

A complete examination is justifiable in most cases and should consist of (1) posterior-anterior, (2) lateral (preferably stereoscopic), (3) two obliques. Where the expense must be considered, one posterior-anterior and one lateral will give the most information.

I recently reported "One Hundred Cases of Chronic Nasal Accessory Sinus Disease with the X-ray Findings."\*

It is interesting to note from a study of the cases that, where the chief symptoms were a constant nasal discharge without pain or headache, there were twenty-three cases (23 percent); three of these (12½ percent) were negative, and twenty (87½ percent) showed cloudy sinuses. Of the positive cases, three (cases Nos. 25, 82 and 84) were not confirmed. In those patients where the chief symptoms were a constant nasal discharge with pain or headache, there were seventeen cases (17 percent). All of these, or 100 percent, showed cloudy sinuses. One case (No. 19) was not confirmed.

In the group where a nasal discharge was absent but pain or headaches present, there were thirteen cases (13 percent), eleven (84 2/3 percent) were negative and two (15 1/3 percent) were positive. Neither of these positive cases (Nos. 8 and 30) was confirmed.

There were six cases (6 percent) of intermittent nasal discharge. Four (60 2/3 percent) were negative and two (33 1/3 percent) were positive.

The chief complaint in ten cases (10 percent) was a postnasal discharge. Six (60 percent) of these were negative and four (40 percent) were positive. One of the positive cases (No. 83) was not confirmed.

There were nine cases (9 percent) whose chief trouble was a constant or intermittent nasal hydroporrhea. Three (33 1/3 percent) of these were negative and six (66 2/3 percent) showed sinus disease. Of the six positive cases, one case (No. 99) was not confirmed. Six cases (6 percent) suffered from asthma. One patient (16 2/3 percent) had negative sinuses and the remaining five cases (83 1/3 percent) were positive. Tumor formation

other than polypus was present in seven cases (7 percent). All (100 percent) revealed cloudy sinuses on the affected side. There were four sarcomas, one carcinoma, one lymphoendothelioma, and one fatty cyst of the frontal sinus and orbit. Six cases (6 percent) had a polypoid degeneration. All (100 percent) showed one or more sinuses cloudy. One case (1 percent) was interesting inasmuch as the polyp, which was filling the posterior portion of the inferior meatus, apparently had its origin from the antrum. There were two (2 percent) of chronic atrophic rhinitis (ozena); one case (1 percent) of hayfever. All three cases were positive, although confirmation was not obtained in the hayfever patient (case No. 16). One case (1 percent) was taken about six months after both sphenoids had been opened and the middle turbinates removed, incidental to an acute infection of the antrums and sphenoids. At the time the plates were taken, there were no symptoms or clinical evidence of trouble. The plates showed the outlines of the sphenoids and antrums were not clear.

#### The Treatment

The treatment of sinus disease includes, (a) the establishment of adequate drainage and ventilation, (b) the removal of any obstructive lesions (after the acute stage has subsided), (c) the removal of the morbid tissue if other means have failed.

In the acute catarrhal or acute suppurative stage of sinus diseases, the establishment of adequate drainage and ventilation is usually sufficient to effect a cure. This is probably best and most easily accomplished by the local application, to the swollen and inflamed mucous membrane, of a ½ to 1-percent cocaine solution, combined with a 1:1000-adrenalin-chloride solution.

An excellent shrinking formula that I have used for years is as follows:

R Cocaine hydrochloride.....	3 grains
Adrenalin chloride (1/1000).....	1½ drams
Phenol .....	2 minims
Glycerine .....	½ dram
Aq. dest. q. s. ad.....	1 ounce

Sig.: Use in nasal sprayer every hour for pain.

This formula may be used without the cocaine if the pain from an acute sinus infection is not severe. However, the advantage of the cocaine is, that the after reaction from the shrinkage of the tissues is not so violent as in 1:1000 adrenalin and the shrinkage lasts longer. The patient should be ordered to direct the spray upward and backward in the nostril. That is, if the sinuses of Group 1

\*Annals of Otolaryngology and Laryngology, 1917.

are involved, direct the spray in the direction of the inner canthus of the eye, and the anterior portion of the middle turbinate will be reached. If the sinuses of the posterior group are involved, the spray may be directed a little lower.

The removal of the secretions may be greatly facilitated by the restricted use of a suction apparatus or by daily irrigations of the affected sinuses with a warm saline or boric-acid solution.

Irrigation of the frontal sinus is accomplished by inserting a slender, silver, frontal-sinus canula, bent into the proper shape, through the fronto-nasal duct, attaching a syringe to the canula and irrigating with the warm solution. The canula should be bent at its distal end to an angle of about 135 degrees. When inserting the canula or probe, the tip should be passed along the outer surface of the turbinate, forward and upward through the hiatus into the infundibulum, where, in 25 to 50 percent of the cases, it enters the fronto-nasal canal.

Irrigation of the maxillary sinus may be done through the normal ostium by means of a Pierce antrum canula or through an artificial opening made beneath the inferior turbinate by means of a trocar. The technic of the latter method is as follows: (1) Anesthetize the mucous membrane of the outer wall of the inferior meatus. (2) Introduce the trocar and canula beneath the inferior tur-

binate about one inch posterior to the inferior border of the nostril and slightly above the floor of the nose. (3) Penetrate the naso-antral wall in an upward and outward direction. (4) Remove the trocar, leaving the canula in position. (5) Attach the syringe to the canula and irrigate. During the irrigation, the patient's head should be bent forward over a pus basin.

If the irrigations are to be continued for some time and the opening persists in closing, it may be enlarged by means of a burr, chisel or a punch forceps. Irrigation of the sphenoid sinus is possible where an enlarged middle turbinate or deflected septum does not prevent the introduction of the sphenoid canula. When such an obstruction is present, it may be necessary to remove it before the irrigations can be satisfactorily practiced.

Irrigation of the ethmoid cells is often impossible except in the case of the two or three anterior cells which drain into the fronto-nasal duct.

The swabbing of a 25 to 50-percent argyrol solution over the nasal mucous membrane is often followed by good results, particularly in the later stages of an acute sinus infection.

When the frontal sinus is the seat of the acute inflammatory trouble, heat in the form of wet compresses or dry heat from the hot water bottle or from a light-bulb, preferably with a carbon filament, is very agreeable. The quartz lamp is useful in many cases.

## The Diseases of the Eye In Relation to General Systemic Lesions

### Eye Complications in Chronic Diseases

By BEULAH CUSHMAN, B. S., M. D., Chicago, Illinois

THE changes in the posterior half of the eye, in chronic systemic diseases, are no doubt those of a chemical nature. The chemistry of the blood is changed, due to the fundamental pathology, so that the normal physiology is interfered with, and an irritation due to the new chemical reactions is set up which is incompatible with the complete function of the organ. With these changes, there are definite pathognomonic signs for certain conditions.

In arteriosclerosis, the changes may be noted first in the small retinal vessels, which gradually become tortuous until the larger vessels are affected. The veins become nicked by the

arteries and the light streak along the arteries becomes more like a tortuous silver thread. With the more advanced cases, the disc outlines are hazy or may be associated with an optic neuritis and gradually the smaller vessels become completely occluded.

The picture in an albuminuric retinitis is found in chronic nephritis and is characterized pathologically by flame-like hemorrhages about the macular region and associated changes in the vessels, which are usually arteriosclerotic.

Clinically, the patient complains of flashes and spots before the eyes with a decrease in the visual acuity. The prognosis in such cases

is usually very grave, with death almost imminent within six months.

In diabetic retinitis, the hemorrhages are usually more scattered over the fundus, the associated arteriosclerosis being not so marked. This condition also appears late in the disease.

In the anemias, the fundus is pale and there may be pulsation of the arteries.

In high blood pressure, the fundus usually shows an arteriosclerosis, and petechial hemorrhages are not uncommon. Pulsation of the veins or arteries, or of both, is present.

Tuberculosis, as a glandular or pulmonary infection in a systemic involvement, may cause many pathologic eye conditions, such as keratitis, iritis, scleritis, choroiditis or optic neuritis, and should be taken care of accordingly. Many of these conditions respond quite satisfactorily to tuberculin treatment.

In specific infections, *tabes* most commonly causes a spinal miosis and optic atrophy; the blood vessels become much smaller and the disc head a dead-white color. One of the early symptoms is a contracted field and color blindness, first for red, then green and last blue. The color blindness may be of great aid in differentiating the condition from glaucoma, in which there is no color blindness, or it comes on very late.

Iritis is probably the most common complication in *lues* and may be chronic or of a low-grade type, with frequent recurrences. Iritis must be taken care of promptly or the vision is lost due to adhesions of the iris to the lens.

Disseminated choroiditis is found frequently in *lues* and is characterized by numerous round or irregular spots which are decolorized in the center and are surrounded by a ring of pigment which gradually fades out.

Chorioretinitis may be one of the first symptoms of a toxic thyroid condition and is complicated by retinal hemorrhages which occur at intervals. The vision returns but is obscured by the vitreous opacities.

A decrease of vision in old age is frequently due to a macular sclerosis, in which the macula shows fine pigment changes and vascular changes. The choroidal blood vessels are visible as white lines through the transparent retina.

Arthritis deformans may be associated with degenerative eye conditions as choroiditis, sclerosis or changes in the lens.

Malaria may produce certain eye changes, but it has been questioned whether the optic neuritis which develops at times is of malarial origin or due to quinine.

Tonsillar and dental infections produce pathology in the eyes, no doubt, although it is hard to prove at times. But many cases of unilateral or bilateral optic neuritis and iritis have been reported, in which the patients recovered immediately after a tonsillectomy or the removal of infected teeth. Scleritis is frequently quieted and corneal ulcers in a large percent of cases will clear up promptly, with removal of the tonsils or of infected teeth. This also includes phlyctenular ulcers so common in children.

In multiple sclerosis, optic atrophy may occur or paralysis of certain muscles, causing strabismus.

In any chronic systemic condition, the eye may become affected and care should always be exerted to save the vision, as the power of seeing is of untold benefit to the invalid as well as the aged.

In the next and last article, strabismus will be taken up.

*THE general physician or the general practitioner is often called in for illnesses which, while the patient does not consider them serious enough to consult a specialist about, do not respond to the remedies he and his lay friends have tried. It is to the general practitioner we must look for recognition of diseases in the early and curable stage.—Sir Bruce Bruce-Porter.*

*(Practitioner, Jan. 1924.)*

# Rickets (Rachitis)

By B. W. ABRAMSON, M. D., Columbus, Ohio

"THERE is a disease of infants, called the rickets, wherein the head waxeth too great, while the legs and lower parts too little." Thus wrote the celebrated English chaplain, Thomas Fuller, over 260 years ago.

This nearly correct but gross description of almost three centuries ago suffices as a cornerstone for the superstructure that all these bygone years of medical investigation beginning with the first detailed description, by Glisson, in 1650, and ending with Marfan's, in 1923, have succeeded to build around this very prevalent disease.

Etymologically, the word "Rickets" is derived from the old English word "wricken," meaning to twist. Its synonym "Rachitis" is derived from the Greek, "rachis," meaning the spine. It was suggested by Glisson on account of there being so many spine deformities caused by this disease. The synonym is more widely used in European countries. The laity, especially in Germany, use a second synonym; i.e., "The English Disease," *Die Englishe Krankheit*.

The latter name does not, by any means, signify that this disease is only present in England. The truth of the matter is, that it is encountered in almost all civilized countries; not barring our own. It has the epithet "English" attached to it because the best and earliest description of this disease came from the pen of an Englishman.

As stated, no civilized country is exempt from rickets. The greatest number of children affected by this disease are found in the metropolitan cities; the country towns and farming communities are not as much afflicted by it as the cities are, but they are not completely free from it. Schmorl's tabulation of the prevalence of this disease, placing it at 96% in Germany and not much less in cities of other countries, gives us an idea of its frightful incidence. What is worse, the figures were compiled before the war. Now, the situation is worse, and my own observations in the European pediatric clinics and children's hospitals lead me to state that there is hardly a single child, in Germany at least, between the 9th and 15th month of age, that does not show signs of having or having had rickets. After the war, it increased in the same proportion as did tuberculosis and, as I will show later, they influence one another.

## Etiology

Just as tuberculosis, rickets is principally a disease closely related, (1) to bad hygienic surroundings, such as crowded tenement houses, where the access to sunshine is a physical impossibility and (2) improper feeding, which, however, is considered the chief factor.

Other etiologic factors of moment in the development of this disease are:

1.—*Heredity*: Rickets occurs not only in offspring of rachitic parents but it seems to show a predilection in children of a rachitic father next to those of a woman pregnant by different men.

2.—*Nutritional disturbances* in early infancy; more frequently, of course, in artificially fed babies.

3.—*Prematurity*: Almost all premature babies develop rickets.

4.—*Season*: It seldom begins in the summer months. In winter, almost every child, who happens to need the care of a doctor, will show signs of it.

5.—*Civilization*: Aborigines seem to be free from it, South African negroes are exempt from it, while in this country the negroes supply the greatest majority of ricket cases seen, even more than the Italians. In other words, civilization means not only syphilization but also ricketization. (The effect of civilization on the development of rickets is exemplified by the fact that domesticated animals, wild animals kept in menageries or dogs kept on a chain, quite often develop rickets.)

6.—*Avitaminosis*: A number of American investigators (Funk, Hess, Unger) demonstrated that they can produce rickets experimentally, if the animals experimented on be fed foods lacking the vitamin A. Daily experience bears out their contention, since rickets is more apt to develop in children reared on proprietary foods, most of which are deficient in fat contents and have an excess of carbohydrates. Also therapeutically is their claim proven, since the administration of codliver oil, so rich in the fat-soluble "A" factor, has proven almost a specific in the treatments of rickets.

It can not be said, however, that rickets is chiefly a phenomenon of avitaminosis. In many cases, no such deficiency in the food given is found; yet, rickets develops.

We find the same inconclusive evidence as to the cause of rickets in the lack of calcium salts. Experimentally, a condition similar to rickets can be produced in animals, if the food lacks certain calcium salts. Rickets, however, develops where these elements have not been deficient in the food.

In view of this uncertainty as to the real cause of rickets, we must agree with Czerny who maintains that there is such a thing as a peculiar predisposition, or a rachitic diathesis, depending on some hereditary factor. It is also probable that some extrauterine or intrauterine injuries may be responsible for this peculiar tendency.

7.—*Congenital Syphilis*: At the end of the 18th century and at the beginning of the 19th, the aggregate opinion of the leading lights in medicine was, that rickets is a result or an expression of congenital lues. Such men as Boerhave, Van Swieten, Astruc and Portal always voiced this opinion in their writings and it became accepted as a fact. In 1838, the celebrated French physician, Jules Guérin, published his experiments, proving that rickets is usually a result of faulty alimentation, and the congenital lues theory was abolished. It was revived by Parrot in 1873 and, since then, it became a much disputed question. Parrot based his assertions on the fact, that the bone changes, those of osteochondritis are identical in both conditions and, therefore, he considered it as caused by one and the same disease. His contentions were later disproved. Most investigators agree that, while syphilis may be a dominant factor in producing rickets, it is not the only cause; any chronic infection or intoxication during the period of ossification, may bring on rickets.

The infections most often responsible, besides lues, are: Tuberculosis, bronchopneumonia, pyodermitis and diabetes. Of the intoxications, prolonged digestive disturbance takes the lead as a causative factor; next in importance is endocrine insufficiency, as proven by the frequent association of rickets with myxedema.

#### Pathogenesis

Several theories have been advanced to explain the exact mechanism of the pathologic changes found in rickets. All seem to explain it on the basis of a faulty metabolism of calcium salts.

Chemical analysis of ricket bones shows that they contain over 3% less calcium salts than the normal. The question arises, what causes this deficiency? Some claim that it is due generally to the lack of sufficient calcium

in the food given. This does not seem to be borne out in all cases, because, as already stated, in most of the cases no such lack can be demonstrated. Others claim that the underlying cause is the excessive elimination of calcium salts. We wonder, then, why this elimination should take place in winter only and not in the summer time. A third explanation is offered; viz., that it is due to the inability of the bone to assimilate or absorb calcium salts.

The fact is, that all these theories are partially correct, and the generic term, "faulty metabolism," offers the most acceptable explanation.

Marfan, the famous French pediatrician, brushes aside the theory of calcium metabolism and bases his very novel and plausible conclusion on a different theory altogether.

He calls our attention to the fact that all chronic infections, no matter what their nature may be, bring about a cell proliferation and congestion of the soft osseous tissue. The same process takes place in rickets, enhanced by the fact that it happens during the period of ossification when there is a very active cytogenesis going on. It is this hyperproduction of soft bone and cartilage that interferes with proper ossification, and brings about the characteristic bone alterations.

Marfan points out, furthermore, that the osseous system is not the only one where the cell proliferation takes place. It is seen, even to a larger extent, in the hemolymphatic system, and this is the reason why rachitic deformities are always accompanied by intumescence of lymphoid organs. Parathyroidism and tetany can be explained on the same grounds; namely, as a result of chronic infection and intoxication.

#### Pathology

Marfan's ideas help us to understand the pathologic, anatomic and histologic changes that we find in rickets.

Normally, the growth of bone in length takes place by production of bone in the cartilage found between the shaft and the epiphysis; the shaft growing in thickness by the interposition of bone structure in the inner layer of the periosteum. The deviation, in rickets, consists in the increase of cartilage production at the epiphysis; retardation of destruction of the cartilage by the osteoclasts and the marrow elements, the process of ossification thus being retarded or completely arrested. As a result, we find an unusual flexibility of the bone, giving rise to the various deformities or causing frequent frac-



tures of the bones, especially those of the radius and ulna.

#### Symptomatology

The symptomatology of rickets is variable, since it is a result of many factors and manifests itself in various degrees and forms. Being chronic and insidious in character, its early stages are characterized by a train of prodromal symptoms which should make us suspect the development of rickets. These symptoms are: (1) Vasomotor and nervous disturbances: The baby is restless, sleep easily disturbed, cries on being handled and, while doing so, its body takes on a red-bluish tinge, the veins of the skull are distended and the head is covered with cold sweat. The child appears indifferent, refuses to sit up, having neither desire nor strength to do so.



TYPICAL RICKETS

Showing the large head, narrow chest, prominent abdomen, marked enlargement of the epiphyses at the wrists and ankles. There are also curvature of the forearms and legs which are not so well shown.

The patient is a child two and a half years old. From Emmet Holt, "Diseases of Infancy and Childhood," New York, 1911. D. Appleton & Co. With the kind permission of publishers and author.

When such symptoms occur in a child suffering from digestive disturbances, especially during the winter months, rickets should be suspected.

The light form of rickets presents as outstanding symptoms: (1) Craniotabes; softening of occipital or posterior portions of the parietal bones, (2) Enlarged fontanelles, (3) Beading of the ribs, giving the characteristic picture of the rachitic rosary (*Rosenkrans*), (4) Sweating of the head, (5) Restlessness at night, (6) Constipation.

A marked case of rickets presents an easily recognized picture. The progressive softening of the skull and the ensuing hydrocephalus give to the head the characteristic shape of *Caput Quadratum* (Square Head). The prominent abdomen, beaded ribs, narrow chest, swelling of the epiphyses of the wrists and ankles and curvatures of the extremities, make up the rest of the characteristic features.

As to deformities; in extreme cases almost every bone in the body is affected, most often symmetrically, especially in bones of the upper and lower extremities.

The more disfiguring deformities of the spine, scoliosis and kyphosis; the deformities of the lower extremities such as: coxa vara, coxa valga, bow-leggedness, knock-knee and pelvic deformities (if bone tuberculosis and lues can be ruled out) are usually due to rickets.

The bony deformities enumerated are only the external manifestation of the rachitic syndrome; of greater significance, is the influence of this disease upon the internal organs of the body. I have already spoken about the intumescence of the hemolymphatic system; anemia and hypotonicity of the muscular system are other prominent symptoms.

Congestion of liver and spleen give rise to pathologic hemogenesis which also means perverted osteogenesis, thus establishing a vicious circle. Hypertrophy of tonsils and adenoids, the enlargement of the bronchial lymph glands and aided by the existing chest deformity, lead to respiratory disturbances, such as chronic catarrhal conditions of the nose, throat, bronchi and lungs and make bronchopneumonia one of the most dangerous infections of childhood. The status thymolymphaticus, so often associated with rickets, makes a distinct clinical entity characterized by: (1) Polyadenitis, (2) Hypertrophy of the thymus, (3) Enormous adiposity, (4) Persistent anemia, (5) A disposition to attacks of syncope which is often the cause of sudden deaths.

The anemia found in rickets is similar in character to other secondary anemias that are a result of chronic infections or intoxications. There is present the usual leukocytosis,

the lymphocytes predominating, and a few myelocytes. Sometimes, the blood picture resembles that found in pseudo-leukemia infantum.

Muscular hypotonicity varies in degree, from slight flabbiness to complete relaxation, which enables one to make such unusual flexions and extensions of the body that surpass any acrobatic feats that one sees in the circuses or vaudeville shows.

This lack of muscle tone leads to the formation of the characteristic "pot belly" and makes abdominal hernias a comparatively frequent occurrence. Retardation of locomotion is due to the same cause and, when we see a child unable to walk after the 16th month, we should suspect rickets, unless a neurologic examination reveals other causes.

#### Diagnosis

A fully developed case of rickets is easily recognized. The chief diagnostic points are, craniotables, rachitic rosary, delayed dentition and epiphyseal enlargements. They are especially of diagnostic importance when they are found collectively. Individually, every one of these symptoms may point to some other disease. Syphilis of bone may easily simulate the lesions of rickets. Flaccidity of muscles is also found in paralysis of cerebral or spinal origin. Delayed dentition or enlarged fontanels are also found in cretins.

Tuberculosis of the spine is also to be differentiated. It is imperative, therefore, in order to establish a diagnosis of rickets, to look for an aggregate of symptoms which constitutes the rachitic syndrome. The x-ray has become a great diagnostic agent. It reveals early bone changes, chief of which is (1) Rarefaction of the shafts of bones, (2) Enlargement of epiphyses, (3) Wider line of cartilage at the epiphyseal end, (4) Loss of compactness in the cortical lamellae.

#### Prognosis

Rickets is not a life menacing disease; it tends towards spontaneous arrestment and is rarely active after the 4th year. An attempt to walk in a child, whose locomotion has been retarded on account of the existence of rickets, is a very favorable sign, denoting that the process has come to a standstill. The resulting milder deformities usually disappear and the child's development proceeds towards normal conditions. In severer forms of rickets, the gross deformities remain for life and leave permanent stigmata. It is an accepted opinion that deformities not disappearing after the fourth year or those that develop after the fourth year (*Rachitis Tarda*) are of a

permanent character.

Being due, however, to some chronic infection or intoxication, rickets enhances the dangers of all other infections, especially those involving the respiratory system. Bronchopneumonia constitutes the most frequent and the most fatal complication.

#### Treatment

Proper feeding and favorable hygienic surroundings are the best prophylactic measures to be employed in the prevention of rickets. Adequate access to sunlight is another prerequisite; for, it was proven that our window glass is impermeable to the ultraviolet rays the absence of which has a great influence and is a contributing factor to the development of rickets.

Active treatment should begin early, because, after the 18th month, most of the damage that rickets can do is done and, after that period, treatment is of no avail. The treatment to be instituted should be governed by the causative factor, bearing in mind the three great etiologic factors, lues, tuberculosis, and digestive disturbances.

The two best therapeutic agents to be employed are: (1) Phosphorated codliver oil and exposure to direct sunlight or quartz-lamp treatment. American investigators point to the similarity in action of codliver oil and egg yolk. Hess, Holland and Kramer, Casparis report therapeutic successes with it.

Administration of calcium-salt preparation in addition to the giving of codliver oil proves very helpful.

The treatment of deformities depends upon a proper routine of gymnastic exercises and postural treatment. Braces applied to the lower extremities and supporting apparatus to the spine have proven their worth in many cases. The more serious deformities require the care of an orthopedic surgeon whose advice should be sought early.

The combating of anemia is essential and the non-specific protein therapy, so much in vogue now in Germany, should be tried. Prenatal attention to the pregnant mother, by regulating her diet and seeing to it that the food she takes is not deficient in the necessary vitamins, is of great importance because it is very likely that this rachitic diathesis, that I pointed out in the discussion of the etiology of rickets, is acquired by the child during its embryonic life.

#### Conclusions

Rickets is an endemic disease in all civilized countries.

All chronic infections and intoxications oc-

curing during the period of ossification may be its cause. Congenital syphilis and tuberculosis are especially prone to bring it about.

Artificial feeding and poor hygienic environment are important contributing factors.

Rickets is not only a disease of the bones; it is a systemic disease as well.

Avitaminosis plays an important role but is not proven to be the sole factor. This avitaminosis may be acquired during fetal life.

The absence of calcium salts in the food is held by some responsible; so is the impermeability of the ultraviolet rays through the window glass.

The treatment should attack all the enumerated causes in order to insure therapeutic success.

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## The Treatment of Pulmonary Tuberculosis

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### CHAPTER I

#### Changing Tendencies in Treatment

THROUGHOUT generations, the attitude of the medical profession toward tuberculosis was distinctly apathetic and pessimistic. There was little belief in the curability of the disease and, consequently, general indifference as to the means of cure employed. Until the rather recent development of the so-called "hygienic" or open-air treatment, for which we are largely indebted in this country to Trudeau, little progress has been made since the days of the earlier medical writers. In fact, it is quite astonishing, in reviewing the medical literature of a century or more ago, to note how many of the features of our modern treatment were advocated in those early days and were apparently largely ignored in the intervening decades. Hippocrates, about 400 years before Christ, in his classical description of phthisis, in which many of the clinical features of tuberculosis are described with interesting accuracy, advocated tar as a remedy, the forerunner, according to Otis, of the creosote treatment of the disease. Aretæus Cappadox, about 50 years after the birth of Christ, recommended sea voyages and the lib-

eral use of milk and eggs. Numerous writers, during intervening centuries, advised therapeutic procedures which are even now recognized as acceptable, a considerable number of them pointing out the curative value of out-of-door life. In fact, the medical historian can resurrect for us from the archives of the ancients the advocacy of practically all of our modern lines of treatment;—open air life, sea voyages, altitude, milk and eggs and so on; but, for the most part if not altogether, the one great curative factor was ignored. Open-air life and exercise went hand in hand. Complete rest was rarely advised and it has only been within the past few decades that its importance has come to be appreciated.

#### Renewed Interest With Discovery of Tubercle Bacillus

Following the discovery of the tubercle bacillus by Koch, in 1882, and the demonstration of the curability of tuberculosis through out-of-door life and rest, dating from about the same time, there has been a distinct revival of medical interest and the advocacy of innumerable means of cure. Scores of

remedies and schemes of treatment have been suggested, only to be discarded in whole or in part after a more or less extended period of trial, so that the subject of treatment, ignored for generations, has come to experience radical and rapid change. The treatment of tuberculosis of a decade ago is not the accepted treatment of today; and, yet, out of the mass of therapeutic suggestions, a few basic principles, more or less modified perhaps by our rapidly changing opinion, have successfully stood the test of time.

#### As to Drug Treatment

Medicinal treatment, in the restricted sense of the administration of drugs, to affect the disease *per se*, is no longer considered seriously by the majority of phthisis therapists, but, yet, the past few years have given us several drugs which are of decided value in symptomatic treatment and in affording comfort to the patient.

The very multiplicity of the drugs recommended as having a direct curative influence is the most convincing evidence of the failure of drug treatment; however, the physician who approaches tuberculosis as a therapeutic nihilist will fail to attain the success which might otherwise be his.

The generally accepted axiom that, the smaller the amount of medicine the tuberculous patient receives, the better it is for him, may be carried too far by the enthusiasts who are disposed to accept axioms too literally.

However, out of the experience of the past, with its eras of creosote and codliver oil; of guaiacal and cacodylate of sodium and the more recent calcium and iodine, we have come to feel that no drug should be administered "on general principles" and that medicines should be used only on definite indications.

#### The Factor of Climate

As the empirical use of drugs has been gradually discredited, so has the employment of climate as depicted by the enthusiasts of generations ago. Without questioning the therapeutic value of those regions in which sunlight and good weather are known to prevail, conscientious clinicians have ceased to hold out any "climate" as an actual cure of tuberculosis.

Conservatively estimated, climate has now come to be recognized as a more or less valuable adjuvant of other more dependable and more logical therapeutic agencies.

Even out-of-door life has been subject to many modifications as to its universal application. While still regarded as extremely valuable, it is not recommended indiscrimi-

nately as in the past. The all-too-common practice of subjecting patients, suffering from far advanced or very active tuberculosis or presenting serious complications, to the hardships and discomforts of out-of-door living in cold or inclement weather, is illogical and unsound and has generally been discontinued by well-informed physicians. Seriously sick patients are unable to stand the physical drain of such exposure and the bedside care so necessary to them can be given only with the greatest difficulty if at all.

In recognition of these facts, patients with advanced or very active disease are now accorded general hospital care within doors, with special precautions and provisions to meet their unusual needs. This has been brought about the more readily with the gradual disappearance of the absurd and unreasoning fear of infection which once prevailed and in which one of the arguments in favor of out-of-door care was, that it is safer for nurses and attendants.

#### Dietetic Fads Abandoned

In no feature of treatment has the change been more radical than in the question of diet. A few years ago, forced feeding was the rule regardless of the patient's digestive power or capacity, and milk and eggs were urged upon the unfortunate patient in quantities that could not fail to do harm. At the present time, forced feeding is regarded as unsound practice; an unbalanced diet is generally condemned and milk and eggs have been relegated to their proper place as good, nourishing foods which are exceedingly valuable if used in moderation.

#### Rest Most Essential

Quite as radical has been the change in opinion as to the value of rest in the scheme of modern treatment. Ten years ago, in the order of their importance, we should have said that fresh air, an abundance of food and rest were the king pins in the established treatment of tuberculosis and the least of these, by long odds, in common medical opinion, was the factor of rest. Today it is the consensus of opinion among men of wide experience that rest stands alone as the important means of cure, more essential than all of the others combined. As pointed out by Kraus, of the scores of "cures" that have been recommended during the past few decades, none has proven even moderately successful unless rest was included in it, while hundreds of patients have found their way back to health in placing their reliance upon rest alone.

It is not going beyond the bounds of conservatism to say that, in the presence of active tuberculous disease, the patient is better off and has better promise of success at complete rest in a poorly ventilated room and with poor food in the worst of climates than if he were out of doors, with the best of food and most salutary climate; but on exercise.

Incidentally, the word "rest" in active tuberculosis has come to have an entirely new meaning. It signifies today exactly the same as it does in the second week of typhoid fever with practically the same kind of bedside care. It no longer means an aimless life of indolence, ostensibly in bed but frequently up and about.

#### Specific Treatment

From the time of the discovery of the tubercle bacillus, there has always existed the hope that there would, one day, be available a specific of bacterial origin, and there was naturally an era of enthusiasm when Koch offered his tuberculin to fill this all-important place. The results of the employment of the various modifications of the original tuberculin, at one time, proved gratifyingly encouraging, and tuberculin, autogenous vaccines and so-called serums became immensely popular and acquired not only the confidence of the layman but of the physician. While not attempting to determine at this time the exact value or limitations of any of these agents of bacterial origin, it may be said that the sentiment has radically changed and the majority of conservative physicians no longer place reliance upon any of these "specific" remedies in the treatment of pulmonary tuberculosis.

The subject of tuberculin and vaccines will be dealt with more in detail in another chapter of this little treatise, as will all of the subjects referred to in this chapter in which it is intended merely to sketch briefly the changing tendencies in treatment. However, it may be added here that the long expected "specific cure" is not yet a reality and that confidence in specific treatment is at low ebb today.

#### Surgery of the Lung

While specific treatment is temporarily more or less in eclipse and while practically every method of cure ambitiously heralded in the past has been followed by rather prompt disappointment, there now appears on the horizon a field which is rich in promise especially for the advanced consumptive, in the various phases of surgery of the lung.

The simplest and best known of these pro-

cedures is artificial pneumothorax or lung compression, originally suggested in 1821 and later by Spaeth in 1870; but actually first carried out by Forlanini, in 1882, and reported by him, after extensive investigation in 1894. The operation was given serious consideration in the United States through the interest of John B. Murphy, who described his method before the American Medical Association, in 1898.

After a quarter of a century of varying popularity, marked by periods of excessive enthusiasm and unwarranted conservatism, artificial pneumothorax has come to be generally recognized as a definite part of conservative treatment and its successful and relatively safe employment has served to open up new interest in surgical work within the chest which was given impetus through the knowledge that came to us during the World War.

While artificial pneumothorax has now become so entrenched that the extensive treatment of pulmonary tuberculosis on the part of the modern physician presumes knowledge of its indications and technic, the other and more radical operations are receiving serious consideration and are being successfully employed.

Extrapleural thoracoplasty, or lung compression by the multiple resection of ribs, is becoming more and more common and the results are more and more encouraging. Considering the outlook for the patient in the cases in which such an operation would be considered and in the hands of a competent surgeon guided by the counsel of an equally competent internist who has made a special study of the disease of the chest, the danger from the operation and the present percentage of mortality are not too high to regard the operation as at once practicable and of the utmost value.

As to what may be ultimately offered to the tuberculous patient through lobectomy, the draining of the lung through the chest wall and other such procedures, it is too early to say. Conservative surgeons, however, in the light of our more recent knowledge, contend that, within the next ten years, we shall enter the thorax for surgical purposes with the same degree of safety that we have felt in entering the abdomen in the past. At any rate, it may be said without hesitation at this time that no advanced consumptive should be relegated to the ranks of the incurable without first considering seriously the possibilities of surgical interference.

#### What of the Future?

The future holds out the always alluring



hope of the specific preventive and cure as dependable as vaccination in smallpox or antitoxin in diphtheria. At the present time, these appear evasive and remote. It is not unlikely, however, that the hope will one day be realized.

The future also holds out the more or less indefinite promise of a cure of chemical origin as potent as salvarsan has proven in syphilis. To this end, nothing that is convincing has as yet been done.

The future gives us more immediate promise in the field of chest surgery; but this will probably be applicable only to the exceptional case.

In the meantime, the physician, in dealing with the uncounted thousands of tuberculous persons, in all stages of the disease, must place his dependence upon the means of cure which have stood the test of time. In the face of varying opinion—in the face of enthusiasm which misleads the enthusiast as much as it does his public—the selection of the dependable means of cure and their proper application to the many stages and phases of the disease, are by no means easy. The cure of tuberculosis, as we see it today, cannot be reduced to the simple formula which satisfied and even enthused us a decade ago, of fresh air, milk and eggs, rest, climate and a few empirical but established remedies, such as creosote and codliver oil. We are not as comfortably situated in our own minds as when we were sanguine as to the benefits of tuberculin and vaccines.

While much of our past belief and past teaching is unsound and undependable, there is much to which we may cling with a reasonable degree of confidence and out of which we may create a treatment more satisfactory than has ever been suggested.

The most important addition to our knowledge of the treatment of tuberculosis has more to do with the patient as an individual than with the patient as the impassive subject of our therapy. More and more definitely have we come to recognize that success in the treatment of tuberculosis rests upon the doctor as a teacher and the patient as a pupil. The truth of this is expressed in the words of Lawrason Brown: "The treatment of pulmonary tuberculosis demands little knowledge of drugs, but much about the immediate and prolonged education of the patient."

In the months and years which must be given to the successful fight against tuberculosis, the physician is as essential as in the most serious of acute diseases; but he must serve as counsellor, advisor and friend as well as a dispenser of pills and medicines. The purpose of the patient must never flag, and the physician must ever be interested, sympathetic and helpful. Our battles are usually lost in that critical period when the evidences of acute disease have disappeared and when, in other diseases, the patient would be regarded as convalescent and on the high road to recovery.

In meeting the demands of the patient, personality on the part of the physician is as important as technical knowledge and skill. It is well that he should know the scientific facts about the disease; it is absolutely necessary that he should know the personality of the tuberculous patient and the strange temperamental changes which are an important and often a baffling part of the disease.

The management, education and discipline of the patient form a part of the treatment of the consumptive, the importance of which is becoming more and more generally appreciated.

## A New Treatment for Burns

### Butesin Picrate

By FLOYD K. THAYER, Chicago

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**I**N spite of the very extensive research done in the last fifty years, on both, naturally occurring and synthetic medicinals, it is a rare matter to find antiseptic and anesthetic action combined in the same compound. Where both actions are found, one or the other is quite certain to be only incidental to the main physiologic function of the compound;

for example: the mild analgesic action of phenol compared to its germicidal power, or the very slight antiseptic action of anesthetics of the anesthesin and orthoform type.

To increase the dosage to a point where both functions would be definitely apparent, is likely to bring about undesirable and perhaps toxic reactions. The advantages of a com-

pound possessing both, anesthetic and antiseptic action in a marked degree, are quite obvious. While new uses for such a chemical might occur to the ingenious practitioner, yet there can hardly be a more important objective than its application to the treatment of burns.

Picric acid has long been known to possess antiseptic properties. Its phenol coefficient, as given by various authors, varies from 4 to 7. Recent literature points out the value of picric acid as an antiseptic, especially in the treatment of burns.

Knowing the property of picric acid to form salts with many basic compounds, it occurred to us that it would be desirable to combine it chemically with an anesthetic. The anesthetic chosen was Butesin, which is of the water-insoluble type and two to four times as strong as Anesthesin. Chemically, Butesin is the *n*-butyl ester of para-aminobenzoic acid.

Butesin Picrate is formed by reacting aqueous solutions of picric acid and butesin hydrochloride. The product separates as a yellow solid having a melting point of 109° to 110° C. It is odorless, but has a slightly bitter taste. Its solution does not stain to anywhere near the same degree that a picric acid solution does. The new compound contains, 71.6% butesin and 28.4% picric acid.

Butesin Picrate is soluble in water, 1 part in 2000; in cottonseed oil, 1 part in 100. In alcohol, ether and benzene it is readily soluble.

Butesin Picrate, synthesized with the double purpose in view, of obtaining anesthetic and antiseptic action in the same chemical compound, was submitted to not only pharmacological tests, but to bacteriological as well.

As a means of ascertaining its anesthetic efficiency, and at the same time testing for possible irritation, the eye of a rabbit was flooded with a 1:2000 aqueous solution of Butesin Picrate for one minute. Immediately thereupon, the point of a pencil was drawn across the cornea of the eye without the rabbit showing the slightest sign of winking. This is classed as immediate anesthesia. The duration was from fifteen to twenty minutes. At no time was any irritation noticeable.

Bacteriological tests were made by dissolving Butesin Picrate in sterile distilled water—1 part to 2000. A culture of bacteria isolated from a burn and containing streptococci and

staphylococci was placed in contact with this aqueous solution. Subcultures, taken after intervals of 1, 2, 3, 4, 5 and 6 hours, failed to show any growth, whereas an immediate subculture displayed a heavy growth.

For clinical purposes, Butesin Picrate is marketed in two preparations. It is incorporated in a base composed of white wax, paraffin, mineral oil, borax and water. A cottonseed oil solution is likewise used. Both of these preparations contain 1 percent of Butesin Picrate.

In a large steel plant, near Chicago, hundreds of burn cases, ranging from first to third degree burns, have been treated with Butesin Picrate preparations, with results which the surgeon in charge characterized as "very wonderful."

This new treatment has been found efficacious on electric burns as on steam and hot metal burns. One doctor writes that burns heal in about one half the usual time under Butesin Picrate.

So strongly analgesic is the action of this anesthetic-antiseptic that all burning sensation disappears within fifteen to thirty minutes. The ointment anesthetizes the cornea as readily as the aqueous solution.

After using the Butesin Picrate treatment in a large number of burn cases, one doctor reported how pleased he was to find an almost entire absence of that offensive odor so often encountered when the first dressing is removed. This was just another way of saying that there was freedom from saprophytic action.

Success of this new remedy has not been confined alone to burns. Ulcers, lesions, and other painful, denuded skin areas respond in a most gratifying manner to treatment with Butesin Picrate Ointment. Here again, as in the case of burns, prompt relief from pain is afforded and, at the same time, under strictly aseptic conditions.

In order to discover if any toxic symptoms might result, should absorption take place after application of the ointment to large areas of denuded skin, over four and one half cubic centimeters ( $4\frac{1}{2}$  Cc.) of saturated aqueous solution of Butesin Picrate, per kilogram bodyweight, was injected directly into the circulation of a rabbit and without the slightest untoward effect.



# The Treatment of Chronic Gastric and Duodenal Ulcers by Physiotherapy

By A. I. ARNESON, M. D., Austin, Minnesota

THE development of physiotherapy has been hampered by a tendency of physiotherapists to depend upon one single modality for results in a given case or even a group of cases. It is the purpose of this paper to show how physiotherapeutic measures may be combined with each other and with drugs, surgery, etc., to accomplish things which these methods are unable to do when used singly. In other words, team work among all valuable therapeutic measures wins the battle in many instances where the cause would otherwise be lost.

In grouping the cases of chronic gastric and duodenal ulcers that have been treated by the writer during the past four years, there is apparent a certain uniformity of results that may form the basis for deductions on which the management of these cases may be considered. The results were so uniformly good that it was thought advisable to publish the description of the combinations of therapeutic measures employed so that the technic may be adopted by others and a large enough series of cases obtained by which the place of these methods in our therapeutic armamentarium may be definitely established.

The problems of etiology, symptomatology, diagnosis, prognosis, pathology, medical and surgical treatment will not be discussed as this may all be found in any up-to-date text or reference book on the subject. Three case reports will be presented in order to illustrate the type of cases which make up the series forming the subject of this paper.

## Three Illustrative Case Histories

Case No. 1, male, age 43. Has had stomach disturbances of indefinite character since childhood. Severely constipated since earliest memory. For many months, has been drinking several ounces of mineral oil to secure bowel evacuation. Has had to take increasingly large doses of various laxatives and cathartics for several years. Has almost constant severe gnawing, nagging pain in upper abdomen. Has never vomited blood, but occult blood has been demonstrated in stools. The diagnosis was established (by concurrence of the many specialists, clinics and sanatoriums that the patient had visited in search of relief) as chronic gastric ulcer of indolent nature.

Physical examination revealed a rather poorly nourished body with considerable tenderness in epigastrium. Hemoglobin, 65%. Slight pyorrhea about one tooth. Several large inflamed anal papillae and crypts, severe hypertrophic proctitis and colitis. Had tried a great many modifications of alkaline medication and dietary régimes for many years past, but without relief. Had been getting worse rapidly in past few weeks and expressed the opinion that he would not live many more months if no help was obtained soon.

The first step in the treatment of this case was the excision, under local anesthetic, of the inflamed anal papillae and crypts. Healing was complete in five days, since which time the patient has had daily normal bowel evacuations without any laxative or cathartic of any sort being used. Following the operation, the patient was placed on a course of the so-called Sippy tablets and milk and cream diet. Patient expressed lack of faith in this, as it had been tried so often before without benefit. Daily treatments were also begun with radiant light to the abdomen for twenty minutes and followed by similar exposure to back of entire body. Following this, ultraviolet rays were given at 90 volts and 15 inch tube-skin distance; giving initial dose of 90 seconds and increasing this on successive days as necessary to keep up a definite erythema of the abdomen. The tube was centered over the epigastrium, but the entire body was exposed, in this way securing the local effects in the epigastric region, and the systemic reaction was secured to as great a degree as possible by the exposure to the longer and slanting rays. The ultraviolet rays were also given in a similar manner to the back of the body, centering the tube over the seventh dorsal vertebra. These rays were increased as indicated until exposures of twenty minutes each were given and these were continued to the end of the treatment. The result of this combination of therapeutic agents was, that the patient had no more pain after the first day and began to gain weight at once, gaining ten pounds the first month. The alkaline medication, with Sippy tablets and the milk diet were continued with suitable modifications, except that, after the first four weeks, greater insistence was made for vege-

tables in the diet. A determined effort was made to obtain all possible mineral contents of vegetables. Potatoes were boiled with the skins on, vegetables were boiled and the boiling-water was saved and used as soup stock for succeeding meals. Patient developed a craving for this water and would drink it from a tumbler like any other beverage. He improved rapidly in every way, and active treatments were discontinued after seven and one-half months of diligent work. The blood had reached normal and the patient was apparently in perfect health in every way, strong, able to work long and hard without tiring, with normal bowel action, etc. The proctitis and colitis had disappeared. Gums had been taken care of by dentist. Result was apparently all that could be desired.

Case No. 2, male, aged 49 years. Gastric ulcer for ten years. Many and severe hemorrhages. When first seen, was almost exsanguinated from a recent hemorrhage. Had all the typical and classical symptoms. Had given up his farm several years ago and, for the past four years, had done no labor of any kind. Constipation very severe. Used a great deal of powerful cathartics for several years. This patient had been treated by many well known physicians and groups of physicians along the orthodox medical lines, but without result. Patient growing progressively worse.

Treatment of this case was carried out along the same lines as in Case No. 1, except that there was no operation performed, as there were no inflamed anal papillæ or crypts.

Pain and vomiting did not recur after the first treatment. Patient gained eleven pounds in six weeks, at which time the milk and cream diet was carefully changed into a vegetable scheme as in Case No. 1. Patient was treated for three months, by which time the blood had risen from 50% hemoglobin to normal; weight was 150 lbs. and patient went to work and has held his job now for over two years without any sign of relapse. Rather, he is growing more robust. The proctitis and colitis cleared up and the bowel action became normal after several weeks' use of warm cotton-seed-oil enemas taken in knee-chest position.

Case No. 3, Male, age 44. Has had stomach trouble constantly for twenty-three years. Has had well defined symptoms of duodenal ulcer for six years, during which time, he has been subjected to a large number of courses of the orthodox medical treatments. Patient

was operated upon in 1918, at a well known Clinic, a gastroenterostomy being performed. The pain and vomiting returned with full severity within three months following this operation. During 1920, the patient was under the care of one of the best-known exponents of the medical treatment of gastric ulcers in the country. The pain and vomiting were controlled for a few weeks by this treatment but, finally, recurred with great severity despite the medication and diet. During this time, the patient states that aspiration of stomach contents often yielded as much as two quarts of liquid every three to five hours.

In the early portion of 1922, patient was reoperated at the Clinic where the first operation was performed. On this occasion, it was found that the former duodenal ulcer appeared healed, but ulcerated surfaces had formed at the site of the gastroenterostomy. The anastomosis was undone and the original normal food channel restored. The pain and vomiting recurred with full severity before the patient was ready to leave the convalescent hospital. In August, 1922, patient had a very severe gastric hemorrhage and the x-ray examination showed a recurrence of lesion at the site of the original duodenal ulcer. Patient was advised to submit to a third operation, but refused. X-ray showed marked retention by stomach and patient was told that the pylorus was permanently damaged so that it could never function properly again.

Examination in October, 1922, showed the usual signs. Hemoglobin 50%. Very weak. Had been severely constipated for many years and examination showed severe hypertrophic proctitis and colitis with moderately large internal hemorrhoids.

Treatment of this case was begun by subjecting the internal hemorrhoids to the injection method. Enemas of warm cotton-seed oil in knee chest position were used to secure bowel evacuation. The radiant light and ultraviolet ray treatment was carried out exactly on the same plan as in Cases No. 1 and 2. Alkaline medication was carried out in a similar manner and the vegetable diet developed as in the other cases.

The result of the treatment was complete relief of all pain after the third day of treatment. Patient was treated for three months, in which time he gained in weight and strength. Blood hemoglobin rose to 75% and the patient returned to his home and reentered business which he had given up some years ago. Last reports are that he is the outstanding wonder of his section of the coun-

try, as he had despaired of getting any help. Yet, now, he has become fat, works hard and seems to be the picture of health.

#### Conclusions From Clinical Results

In summarizing the impressions gained from the results of treating chronic gastric and duodenal ulcers, let us understand that this summary is not based on the three cases cited but on the entire series considered in this report, which now includes over fifty cases. The summary follows:

The writer is convinced that gastric and duodenal ulcer should not be looked upon as a disease *per se*, but as one of the ultimate products or results of a diseased condition involving the entire human body. We must realize that the stomach is exceptionally well able to protect itself, when we consider the variety of insults and ignominies heaped upon it in various forms of so-called eatables and drinkables. If there were no associated conditions which produce a lowering of the vitality and resistance of the stomach, it is doubtful that a gastric or duodenal ulcer would ever develop, except as a result of direct mechanical or chemical trauma. If we are justified in our belief that these ulcers are the result of disease instead of being the essential diseases *per se*, then we are justified in the claim that the orthodox medical and dietetic treatment and the various forms of surgical treatment are directed against end-results and not causes. The mechanical fact of the ulcer may be eliminated by the medical or the surgical treatment, but the essential disease will not have received any consideration whatsoever.

It is true that the medical and surgical procedures score quite a good percentage of cure of the ulcer itself. It is the belief of the writer that the results of these methods would be almost nil were it not for the tremendous inherent vitality of the stomach which enables it to accomplish a healing of the wound when more favorable conditions for healing are temporarily created for it. The real disease conditions which made the ulcer possible remain untouched and may either produce a recurrence of the same lesion or they may produce pathology in some other organ or organs. Therefore, we should look upon every case of gastric or duodenal ulcer as one of a serious systemic disease and we should not rest with the relief of one of the ultimate products of this systemic disease. To cure the patient, we must eliminate the systemic disease as well. It is the belief of the writer that the use of the combinations of therapeutic

measures described accomplishes this.

#### Systemic Causes of the Ulcers

These ulcers are trophic disturbances of internal organs. The structural and functional activities of the stomach and duodenum are controlled by the sympathetic nervous system. It is impossible to conceive of a normal stomach in the presence of malfunction or organic disease of its controlling sympathetic plexus. Likewise, it is impossible to conceive of a normally functioning sympathetic control in the presence of a diseased viscus. It is our belief that, before the viscus can become diseased, its vitality must become diminished, and the functionality of its controlling sympathetic system must have been interfered with. Restore the normal functioning of the sympathetic control and the vitality of the organ will be restored and a return to normal structure attained.

As to the causes of disturbed function of the sympathetic controls, they are, of course, many and various. They may be inherent in the ganglia themselves or they may be brought about by reflexes from pathological conditions elsewhere. The sympathetic nervous system is a most complex and delicate system. It is practically impossible to trace any reflex condition to its source along sympathetic-nerve courses because of the complete interlacing and anastomosis of various ganglia and their branches. What we can do and should do, however, is, to try our best to restore all parts of the body to normal, whether any particular departure from normal can be demonstrated to be causing one particular symptom or not. When this is done, the patient will be very much better off, not only as pertains to the particular lesion he may have sought your assistance to obtain relief from, but from any other factors sapping his vitality without effect on the consciousness of the patient.

As pertains to gastric and duodenal ulcer, it is but natural to look for disturbances elsewhere along the alimentary tract for possible sources of reflex disturbances. In the series of cases under consideration, it was found that every case showed marked and long standing constipation and that every patient had some form of proctitis or colitis or both. Many had mechanical sources of irritation to the sympathetic system in the form of intensely inflamed anal papillae, crypts or hemorrhoids. These factors may produce effects on remote sympathetic ganglia through nerve channels and also by the action of the toxins on the ganglia directly. Remove the toxic and mechanical sources of direct and reflex



disturbances of the sympathetic ganglia and their normal function will not be interfered with. It was likewise demonstrated that, unless the associated disturbances in the alimentary tract were cleared up, the gastric symptoms soon returned, but that, when these were cleared up, the symptoms did not return.

#### **The Good Effects of Light and Rays**

The explanation of the *modus operandi* by which radiant light and ultraviolet rays produce results in gastric and duodenal ulcers must necessarily be more or less theoretical, although certainly less so than in the case of many of our other therapeutic measures, especially drugs given by mouth. The action of intense radiant light energy applied in these cases is both, direct and reflex. It produces a hyperemia of the skin and underlying tissues by the mechanical penetration of the light energy. This action institutes a reflex action, by way of the spinal nerves, to the sympathetic ganglia controlling the abdominal organs, producing an increased activity of the ganglia, which in turn is reflected, in the tissues or organs controlled by them, by increased activity. The action of the ultraviolet rays is much on the same order and is synergistic to the radiant light energy, supplementing, augmenting and prolonging its effect. In addition to the mechanical and reflex action of the radiant light energy, the ultraviolet rays, absorbed by the blood streams of the dermal capillaries, produce a chemical change in the blood whereby it acquires a greater ability to take up oxygen from the air and calcium (and other alkaline mineral elements) from the food taken by the patient. One must realize that it avails nothing to have the patient absorb quantities of oxygen, calcium, iron, and other salts into his body, if the blood stream is incapable of taking up these elements. An acid body can not be healthy. It is our belief that the ultraviolet rays exert a very great influence toward alkalinizing the body by aiding the blood to elevate its saturation point for these alkaline elements. The action, then, of these two agents may be considered as summing up into the increase of circulation and osmosis in the abdominal organs and their governing sympathetic ganglia and an increase in the life giving qualities of this blood stream. Normal functioning of the sympathetic ganglia is obtained and, with proper materials with which to build, the diseased viscus is returned to normal.

#### **Evaluation of Therapeutic Measures**

Because of the fact that several therapeutic measures were employed in these cases, it may

appear to some that it is not definitely established just what part these physical measures played in the work of returning the patient to health. The following points appear pertinent:—These patients had obtained no relief from the medical or surgical treatments given them before. When these methods were employed in combination, results were obtained. Some cases were handled with other combinations and the results were not satisfactory. Radiant light and ultraviolet rays, given alone without the medical and dietary treatment, did not help as quickly and some patients were not helped at all until the medical treatment was added. Radiant light alone without the ultraviolet rays did not give as good results. Likewise with the ultraviolet rays alone without the radiant light. As to the proctitis and colitis, the writer has treated a great number of cases, not associated with gastric or duodenal ulcer. Using the usual drug and diet treatment with local applications to rectum and colon, it always took a very long time to obtain any results. Using the ultraviolet and radiant light rays, these cases clear up in a fraction of the time otherwise required. We have treated cases of proctitis and colitis for as much as three months, without any sign of improvement, when using only the medical treatment, and after a week of treatment with the radiant light and ultraviolet rays there occurred a most astounding change for the better. Radiant light and ultraviolet rays have been tried alone in these cases also, but nothing works as well as the combination of the two.

If proctitis and colitis produce toxic and reflex nervous irritations of the ganglia controlling the stomach, it would, of course, be but reasonable to eliminate any possibilities of similar effects produced by inflamed papillae, crypts and hemorrhoids, and these should be cleared up in all cases. In other words, although we can not trace the ulcer to any one particular reflex lesion, we do know that none of these possible sources are doing the patient any good. We do know that the patient needs every chance to get well that we may be able to give him. Anyone who has seen a hypertrophic colitis clear up and assume a normal appearance under the radiant light and actinic ray treatment can not doubt but that here was something that was detrimental to the patient. When he also sees the patient progress to full recovery from a disease which had been uncontrollable by other means, he is justified in his belief that here is something definite in cause and effect and the real cure thereof.

### Summary

To recapitulate the treatments used in these cases:

- 1.—Relief of constipation by enemas if necessary. Never drugs or oils by mouth.
- 2.—Removal of mechanical sources of irritation in anus and rectum.
- 3.—Removal of inflammatory conditions from rectum and colon.
- 4.—Alkaline medication and milk and cream diet carried out along orthodox lines.
- 5.—Use of radiant light to abdomen and back, twenty minutes daily; followed by ultra-

violet rays, stimulative-erythema dosage, 90 volts, 15 inches, centered over epigastrium and seventh dorsal vertebra respectively, with entire body exposed. This gives both local and systemic effect of rays.

6.—Insistence on vegetable diet as soon as possible, to furnish the vitamins and the alkaline minerals needed.

7.—Removal of all sources of toxemia, focal infections, etc.

Treat the patient and not the symptoms. Assist nature to return the whole body to normal, and the lesions will be taken care of.

## The Shortage of Doctors

By J. M. FRENCH, Milford, Massachusetts

A MEETING of the Thurber Medical Association, held in Milford, Mass., on December 6, 1923, was devoted to the consideration of "The Shortage of Doctors in the Rural Districts, and What To Do About It." The meeting was open to the public, a fair proportion of whom were present; the idea being, to get the point of view of the layman as well as of the medical profession. Indeed, the topic was looked upon as being of vastly more importance to the doctors' patients than to the doctors themselves. The object was not, to institute a propaganda, but only an inquiry.

There were no formal papers read, but nearly every person present took part in the discussion. Without having been planned, it developed that two different viewpoints were represented. The idea presented by the leader of the meeting was, that there is a shortage of doctors, at least in many parts of the country, but that it is local rather than general. There may be as many physicians as are needed in the country as a whole, but in the small towns and sparsely settled rural districts, there are not enough to meet the actual needs of the communities, at least at certain times and at rates which are suited to the purses of the majority of the people served.

On the other hand, men high in the medical profession seemed to question the reality of any such shortage existing. The President of the Massachusetts Medical Society, who opened the discussion, reported that his society, some years ago, sent a committee to investigate the conditions in Berkshire county, which is the hill country in the western part of the state; and they reported virtually that no such shortage was to be found. Another successful physician, who had spent ten years of his

life in the practice of his profession in the northwest, stated that the condition referred to might be one which seriously affected the eastern states, but it did not trouble the west, at least in any considerable degree. He gave as his reason for this, "that the best brains, the hardest workers, and the largest financial rewards in the west, were all to be found in the country districts as distinguished from the cities, and that under these conditions there was no lack of doctors to care for the sick, nor of money to pay them well. In the Atlantic states, on the other hand, both the brains and the money are forsaking the country and flocking to the city, leaving only the old and the feeble and the less enterprising and wide-awake portion of the community to carry on in the rural districts; and these, while the most likely by far to be ill and in need of medical care, are the least likely to have the means to pay the doctor for his visits, especially if he has to come a long way to see them.

### The Patient's Side of the Question, and the Doctor's

Right here spoke up a prominent judge in the audience, to say that the thing which had most impressed him in relation to the shortage of doctors, was its financial aspect. For those of abundant means, there was no shortage; but for those in moderate circumstances and yet not poor enough to be objects of charity, the outlook was often distressing. As the Judge's home was in a small town, he had occasion to see many such cases. His remarks were reinforced by one of the doctors present, who told of a recent patient, an old lady who came from a small town in northern Maine, where, when she needed a doctor, she had to send ten miles for him and pay him

fifteen dollars a visit for his services—which, as she was one of those people who always want to pay cash down, even to doctors, she felt to be something of a hardship. And the doctor reporting the case confessed that he sympathized with her and that he believed that fifteen dollars a visit would be a great hardship for the majority of persons living in the small country towns of New England. When they find themselves seriously ill and perhaps at the point of death, they will send for a doctor and will pay him promptly while the funds hold out. But, when it comes to having a doctor to care for them in their little illnesses or, better still, to look after them when they are well, and keep them from getting sick, they are a long way from that. A doctor for serious disease, and a surgeon for difficult operations, they will have. But the old family doctor, who knew them and their diseases, their family history and their personal peculiarities, had grown old in their service and had passed away—and no one else had come to take his place. That is what the shortage of doctors means to them. And they miss his sympathy and friendship and advice, even more than they do his medicine.

As for the doctor himself, it cost him money and time and hard work to fit himself to enter his profession; and, now, to pay his expenses, which are high, to provide himself with books and instruments and medicines, to keep up with the times and gain the experience and skill which he must have in order to gain and keep the confidence of his patients, he must needs earn a good deal of money and collect it promptly. That is the doctor's side of the story, and he is as much entitled to his side as the patients are to theirs. What the patients look up on as a shortage of doctors, the doctor, and especially the young doctor, looks upon simply as a good chance to make a living.

And so the doctor seeks the city, where he can have greater professional and social advantages; among which may be reckoned having an abundance of consultants always at hand, ready to give him help in time of need—which is certainly an advantage, even though it does not tend to cultivate self-reliance. He also gets a wider experience, and, if he is the exceptional man, may win eminent success and a far higher position in his profession than would have been possible had he remained in the country. If he is an average man, it is doubtful if he makes as good a living or amounts to as much in the way of the things that make life worth living as his country

cousin does. That, however, is largely a matter of opinion. Certainly, the city doctor never gets so near to the hearts and lives of his patients. As to which gets the most out of life on the whole, that depends.

#### Some Committee Reports

*The Journal of the American Medical Association* is responsible for statistics showing that, while in 1901, there were 159 medical colleges in the United States, and 5444 medical graduates; in 1921, the number of colleges had shrunk to 81, and the graduates to 2529—a reduction of very nearly one half in each case. These figures show a real and general lessening in the number of medical men throughout the United States as a whole. When to this is added the further fact that, in the rural sections of the country—notably of the east and south—the average age of the physicians ranges from fifty years upwards, while almost no young men are coming in to take the places of those who are passing away, it is easy to see what is in store in the not distant future—unless, indeed, some means can be devised to overcome this unequal distribution of medical men.

A report of the Committee on Medical Education, recently made to the Philadelphia Medical Society, says that it is generally admitted that there is a scarcity of doctors, especially in the rural districts and small towns of Pennsylvania. Even in the cities, there are not medical men enough to serve as interns, physicians in out-patient departments, and junior physicians in hospitals. Authorities differ as to the proper ratio of physicians to the population, the estimates ranging from one for each five hundred to one for each seven hundred persons, a fair average being one for each six hundred. The city of Philadelphia was reported as having one to 526 persons, and Pittsburgh one to 447. Leaving out these two large cities, the proportion in the rest of the state was practically one physician for 1000 persons. But, even these figures did not express the actual ratio of persons who could be called upon to attend the sick in the state, since there were many who, though registered as physicians, did not directly serve the needs of the communities in this respect; as for example, full-time teachers in the medical schools, laboratory men, many specialists, men engaged in industrial medicine, and other public health workers. To these it would seem fair to add another increasing class, full-time school physicians, as well as the men who, from age or ill health, are no longer able to respond to calls to care for the sick.

A New Hampshire committee reports that, out of 226 towns in that state, 110 were without a resident physician; and one town is 35 miles from the nearest physician. They also report that the average age of physicians in that state as a whole is over 50 years, which would seem to indicate that the young men are not lining up in any large numbers to take the places of those who have grown old.

A specific example is given in the town of Epsom, containing 650 inhabitants and situated only a few miles from Manchester, the largest city in the state. This town was reported, a few years ago, as having inserted an article in its town warrant, asking the town to consider building a home for a physician and paying him a regular salary. The town is well equipped except for a doctor, having a church, a public library, several small manufacturing plants, and a number of fraternal organizations, whose benefit systems made it necessary that a doctor should be available. Whether the article was adopted, the present writer knows not, and the item is quoted only as illustrating the existing situation and the means to which the people are looking for relief.

The State Commissioner of Connecticut reports (*Jour. A. M. A.*, Feb. 18, 1923), that there are 46 towns in that state without the services of a practising physician—and Connecticut is not a sparsely settled state.

#### **An Economic Experiment**

An interesting experiment is reported in Sharon, Kansas, which is a village of 325 inhabitants, eleven miles from the nearest town. In 1917, a young physician settled there, but, not finding his practice sufficiently lucrative to satisfy him, on account of its limited population, he moved away, and the town was left without a physician for almost three years. At the end of that time, the people got together and formed what was known as the Sharon Health Association, and invited their former doctor to return, on the basis of a regular salary guaranteed by this organization. He is provided with an office, telephone, light, and fuel, and paid a salary of \$3,000 a year, which is raised by assessing each member an equal amount. With a membership of 300, this would require but ten dollars from each member. Each member is entitled to ordinary medical care without additional charge, the exceptions being confinements and cases requiring hospital treatment. The members pay for their own drugs and surgical dressings. The doctor is allowed to charge additional mileage beyond six miles from town, and for

night work; also for work outside the town limits, provided he has time for it. As his pay is as much for the maintenance of health as for the care of the sick, he will have a good opportunity to try out the much talked of plan of keeping families well instead of curing their diseases. The progress of the experiment will be watched with much interest. The weak point in the plan would seem to be the fact that, in a community of only 325 inhabitants, in order to raise the needed \$3000, about all the men, women, girls and boys, and some of the babies, would have to be enrolled in the membership list.

#### **A Better Plan**

But, of all the plans to help out a doctor in a sparsely settled community, the one which seems to me the most practical for the people, and at the same time the most satisfactory to the physician, was reported to me by a medical friend who spent several months of last year in "discovering America" including especially the west and northwest. In the course of his explorations, he came upon a town where the inhabitants were putting into practice a plan somewhat similar to that reported in Sharon, but to my mind vastly superior. The men of this community simply formed themselves into an association and engaged a physician to come to their town to practice medicine. With this end in view, they guaranteed him a salary of \$3000 a year, with the privilege of making as much more as he could. But, instead of his receiving his pay directly from this association, he simply settled there and went about his business in the usual way, making the usual charges, and collecting his bills like other doctors. He was not in any way tied up to his guarantors who, when they employed him, paid him his regular fees. He had full power to act on his own initiative, and every incentive to get all the business he could. Only at the end of the year did he consult the association. And the end of the first year, this was the condition which he reported: He had found plenty of work to do, and his total charges amounted to more than the guaranteed three thousand dollars; but—as is usual in such cases, a large amount of this was still unpaid, despite his reasonable efforts to collect it. And this was where the guarantors came in. He turned over all his unpaid bills to them, and they—the business men of the town—undertook to collect them for him. As an incentive, they had the knowledge that, if they did not succeed, the balance would have to come out of their own pockets; and, as a lever with which to raise the money, they had

that influence which the business men of any community can always bring to bear upon each other and their customers in the line of their financial reputation. The result was, that nearly or quite all of the doctor's patients found it convenient to pay up in full, and the members of the committee were not called upon for anything except their efforts. Meanwhile, the doctor had a good start for another year.

Now, while I am not able to give names

and dates and places, and to vouch for the exact and literal exactness of this story, yet I have no reason to doubt its essential correctness. It seems to me to be wholly reasonable, entirely practicable and worthy of imitation. It avoids the evils of the bonus plan, pays the doctor only for what he does, and yet gives him the chance to earn all he can. If anybody has found a better substitute, I think that CLINICAL MEDICINE will be glad to publish the story.

## Recent Impressions of European Physiotherapy Clinics

By J. E. G. WADDINGTON, M. D., C. M., Detroit

ALL through Europe, without exception, the private physician, the public hospitals and clinics, and—as a natural sequence or concomitant—the laity as thoroughly recognize and utilize physiotherapy as they do x-ray therapy or any other indispensable adjunct to the successful practice of medicine.

I have just returned from four months of investigation of the status of physiotherapy in Europe, during which time public hospitals and clinics, also private offices, were visited in England, France, Germany, Switzerland, Austria, Hungary, Poland and Denmark. No medical center, whether located in capital cities or in smaller towns and even villages, was to be found which did not practically recognize the indispensability of such therapy.

In Germany, a visit was made to the world-famous x-ray department located in the little village of Erlangen. Here I met Prof. H. Wintz, chief of the University-Women's Clinic, a most pleasant and courteous gentleman who personally escorted me through his private offices and later placed me in charge of an assistant who showed me through the wards of the hospital. In Prof. Wintz's office and also in the clinic were to be seen quartz-mercury lamps, sun lamps, diathermy, galvanic and faradic apparatus and also a Bergonié chair, the latter being used for muscle exercise and in the treatment of obesity. It was at this clinic, that I was first informed that the other interrupted currents were preferred to the sinusoidal, as the latter produced unbearable burning of the contacting skin during treatments. I later discovered quite a general prejudice throughout Europe against the employment of any form of sinusoidal

current. It is considered a very dangerous modality.

### At St. Bartholomew's

The electrotherapy department of St. Bartholomew's hospital, London, was a notable exception to this general avoidance; though, even here, the Bristow coil and other faradic modifications were the more popular forms of interrupted currents. The idea of danger in connection with the employment of sinusoidal currents, however, was entirely contrary to their belief and experience. St. Bartholomew's was the only clinic where I noted the employment of chamois-covered electrodes; as a sinusoidal current will inevitably burn long before muscular contractions can be evoked, unless applied through a feebly resistant contact, it would seem as if imperfectly conducting electrodes might be the cause of untoward results, to say nothing of possibly imperfect apparatus.

### The Apparatus

"The Pantostat", furnishing galvanic and faradic currents, mounted upon a small, easily transportable table, is the universally popular machine in Europe.

The quartz mercury lamps, air-cooled and water-cooled, are all produced in Hanau, a small village near Frankfurt a/Main, and are no different in general construction from a similar type manufactured here under an American patent. The air-cooled lamp, however, is more often seen with a large, oblong, side reflector instead of the original overhead diaphragm. With this side construction, there is no danger of a lamp falling and injuring the recumbent victim and, also, the side reflector gives a better exposure to the more



comfortably side-reclining patient. Though nearly every clinic possesses one or more of these ultraviolet outfits, there is considerable difference of opinion as to their exact value. At St. Bartholomew's, Prof. Cumberbatch showed me an arc-lamp of the floor-stand, lateral-reflector type, in which the "carbons" were composed of tungsten metal. At this clinic, various kinds of actinic-ray-producing lamps had been experimented with at some time or another: quartz mercury, carbon arc lamps, and variously modified carbons; only to find, after much research and practical experience, that tungsten is responsible for a richer ultraviolet production than any other substance or combination and affords better clinical results.

#### The Finsen Institute

At the Finsen Institute in Copenhagen, I saw them using the same type of arc-light to which Finsen first attracted attention and that is so universally recognized by his name. Dr. Svend Lomholt, chief of staff, informed me that they had seen and discovered nothing in years of experience which would induce them to think of changing their type of apparatus. With lupus cases of every possible description and duration, constituting a vast clientele from all parts of Europe, this Clinic claims to have a trustworthy record of 80% permanently cured. As they insist upon all cases reporting at stated intervals during a period of several years, they are thus able to speedily recognize any signs of recurrence and reinstitute measures for thorough eradication. Half a dozen patients can be treated at the same time from the same lamp, the rays being focused through telescope-like tubes onto a small lens, which has a water cooling device attached and is compressed tightly against the lesion by an attendant nurse. A treatment usually lasts two hours, with three short intermissions for rest.

Recalling recent claims made in America, that ultraviolet rays used in conjunction with x-rays enable one to give longer and more intensive doses of the latter with less risk of untoward reaction, it was interesting to hear Dr. Lomholt incidentally state that they had found, the most difficult cases of lupus to cure were those that had been previously treated with the x-ray. Such cases invariably showed an undue and more or less permanent sensitiveness to the ultraviolet rays, thereby rendering it almost impossible to adequately push such treatments.

Socalled "solar" lamps, which correspond in quality of light to our socalled "deep-

therapy" lamps are more especially in evidence in private offices, which perhaps explains, without further words, their relative value as physiotherapy aids.

#### Leysin, Switzerland

In Switzerland, light therapy was being employed at its highest state of efficiency. Here, 5000 feet up on the Alps, at the little village of Leysin, are 32 tuberculosis clinics or small hospital establishments under the direct medical control of Dr. Rollier. I was fortunate in not only meeting the doctor personally but also in being present at a time when he was entertaining the French Academy of Medicine and, in consequence, his work was to be seen in all its amplitude and under the most scientifically demonstrative conditions.

Tuberculosis of every type and degree, though more especially socalled surgical tuberculosis: tuberculosis of the bones, was to be seen; patients with every variety of bone deformity, many exhibiting numerous areas of the body perforated with tortuous discharging sinuses. These patients are gradually, very gradually, exposed entirely nude, except for a loin cloth and protective head gear, to the direct rays of the sun, so that in time the skin becomes of a velvety softness and a dark chocolate in color. This direct exposure of the whole body to unfiltered sun light in conjunction with the remarkably tonic properties of the air at this elevation and particular situation, also in conjunction with Dr. Rollier's orthopedic technic of overcoming contractures, over and under developments, by judiciously applied pressure and traction without restrictive compression of developing musculature, is the secret of an almost universal success in the cure of these otherwise abandoned derelicts.

Dr. Rollier does not believe that therapeutic results accrue from exposure to the ultraviolet end of the spectrum alone or even chiefly. He believes that the entire spectrum is required to achieve the best results, and his experience is borne out to some varying degree by other European observers. Certainly, no artificial light, no matter what its source or spectrum, if glass-enclosed, can compete in therapeutic value with the sun or even with an open arc light.

#### In Copenhagen

The Bisperjaerg Hospital, Copenhagen, with 800 beds, was built in 1913 and is situated on a rising eminence outside the city, remote from noise and smoke. With its several units distributed over a wide area and surrounded by palatial terraces and grounds, it impresses

one at first sight as being some wealthy nobleman's domain. Thoroughly equipped to the minute, it possesses an extensive physiotherapy department: electrical apparatus, baths of every therapeutic description, physical appliances for exercising any and every available portion of the anatomy, massage, open-air solarium, inhalatorium, and lamps of the arc type. These latter are unique in their construction. They resemble to some extent the familiar carbon arcs though they are much larger and more powerful. They are suspended from the ceiling and require no particular supervision. Several patients are treated at the same time, receiving  $\frac{1}{2}$ -hour to hour exposures, sitting on benches or stools around the center of the room which is thoroughly illuminated with the rays.

#### German and Austrian Clinics

At the University Polyclinic of the Charité, Berlin, Dr. H. Adams is in charge of a large and well equipped electrotherapy department. At the women's clinic, they were using incandescent-light applications to the abdomen in the treatment of various pelvic affections and employ the quartz-mercury type of air-cooled lamp with a special elongated applicator for administering vaginal treatments.

In Frankfurt a/Main, both at the City Hospital and in the St. Marien Krankenhaus, at Heidelberg, Nuremberg and Munich, at the Cures of Bad Nauheim and Wiesbaden, in City and University Hospitals all over Germany, I found special physiotherapy departments; some unusually well equipped and some sharing extensively in the poverty which now so generally envelops this once so prosperous country.

The University Hospitals in Vienna, Budapest and Warsaw, employ some light- and electrotherapy; and in Budapest they were preparing to install a complete physiotherapy department.

#### French Clinics

Professor Georges Bourguignon, chief of the electroradiotherapy department at the Salpêtrière, Paris, accorded me the freedom

of his clinic and private office. For years he has been doing much practical research work along electrotherapy lines. He has recently perfected a rather complicated looking apparatus which enables one to apply any desired combinations of voltage and amperage, with a device for registering the duration of contacts.

He has discovered, to quote his own words, "that what is important is not the consideration of the strength (necessary to evoke excitability) but the rapidity with which the strength of the constant current is reached or suppressed (in such excitation)". As the Doctor has just published a 400-page thesis upon this subject, entitled "La Chronaxie chez l'homme", it will easily be perceived that it is impossible to give details here; but a more general knowledge of this work would revolutionize our present accepted methods of electrodiagnosis. The Doctor has also perfected a technic for ionization, and has reported several cases of peripheral facial paralysis, and of traumatic cerebral hemiplegia, cured by his method of calcium iodide ionization through the intracranial penetration of the current.

To somewhat reiterate, all over Europe, practically every University, Hospital and Clinic, and practically every recognized medical authority, as well as the so-called rank and file of the profession, has been and is adjunctively employing either directly or indirectly some more or less extensive form of physiotherapy.

Recall and quote this incontrovertibly true statement, when some physician or surgeon sneers at you on account of your employment of this self-same form of therapy for the relief of many conditions not otherwise relievable, and thereby courteously permit him to automatically proclaim and prove himself either ill-informed, imperfectly educated, or lacking in common sense business ability.

605-607 Capitol Theatre Building,

**T**ELL your patients: "I do not know everything.

"Medicine is . . . so vast a science that no one man can know it all. But, what little I do know, I know well, and I know enough to know what I don't know. As your doctor, I will try my best to diagnose your case and tell you what it is that troubles you. If I cannot find out, I will tell you so and, through my knowledge of the profession and your condition, I will take you to a specialist on such cases as yours and I will cooperate with him until we do determine what in thunder it is that ails you."—*The Journal of the MICHIGAN STATE MEDICAL SOCIETY*, December, 1923.

# Thoughts on Death

By EDWARD PODOLSKY, Brooklyn, New York

DEATH, no doubt, is the event of greatest concern to all living organisms. If there is anything certain within the span of vital manifestation, it is death; and death is, by far, more certain than life. Death has always been necessary and will ever be necessary, unless we are willing to set aside a certain limitation of the human mind and perceive a condition that is inconceivable. At present, our minds are so constituted that we can not conceive of a beginning or of an end of time or space. Nor can we conceive of a time when the evolutionary process will have arrived at a standstill; for, then it will have attained the most perfect. Undoubtedly, it is stupendous to conceive of the most perfect. Yet, with the attainment of the most perfect expression of life, will death cease.

Death is a natural incident to evolution and, because of death, has it been possible to evolve from the simplest organism to the complex. Had Nature been satisfied with the Monera as the final vital manifestation, the Monera would have been immortal. But the Monera was only the beginning of a means to an end, and through countless eons it has evolved to more and more complex organisms, none of which was the desired ultimate of vital manifestation. Man, no doubt, is at present the most perfect product of the evolutionary process, but he is but little in advance of the amphioxus toward the final stage in the evolution of the most perfect organism. Had he been what Nature was ultimately striving towards, he would be deathless, for that which is perfect in Nature will be preserved by Nature. Man, like the less complex organisms, is but a means to the end.

## No Elimination of Death Until Perfection Reached

Man, therefore, must never hope to effect a permanent elimination of death. He must be willing to accept death as a thing naturally inherent in him, because he is but one of the countless steps toward the ultimate. He is as far removed from the finest living organism as his mind can conceive.

There was a time on earth when there was no death, and that was, of course, prior to the appearance of living organisms. There ultimately will arrive a time (although it is now inconceivable) when Nature will deem death unnecessary. How far that time is away, cannot be known by the human mind, but it is

not hard to perceive that the deathless organism will be the ultimate of ultimates in Nature's striving for a perfect living form. Its perfectness will constitute its deathlessness, and, because it will be perfect, there will be no need for it to die. With the attainment of the most ultimately perfect, evolution will cease and time as well will have no further meaning.

It is indeed wonderful to speculate upon an organism so perfect that it is deathless, in view of the fact that the present expression of life is so imperfect that death in infinite variety so readily terminates it. The question of what life is has never been answered because it is apparently harder to define something that is imperfect, incomplete, than it is to define that which is perfect. It is obvious, therefore, that the final definition of life will be possible only when the perfect expression of life makes its advent. How hopeless it is to define life at present, is admitted by the fact that life is defined most completely in terms of death. The French encyclopedists of the 18th century defined life as that which resists death. This is by far the most complete definition, in view of the fact that the perfect organism will effectively resist death. Dr. Roswell Park (*J. A. M. A.*, Vol. LVIII, No. 17, April 27, 1912) has shown the hopelessness that confronts the modern investigator in attempting a definition of life:

"After death, the majority of cells in the previous living organism live on for hours, or for days, or under certain favoring circumstances retain potentialities of life for indefinite periods. Life does not inhere in any particular cell. Cells are capable of stimulated activity long after the death of their host. In fact, by suitable electric stimulation, nearly all the phenomena of life may be produced save consciousness and mentality alone. Do these then constitute life? Then what of a trance or absolute imbecility? If life inheres in the brain, then what of the acephalous monster who lives for a short time after birth, or of the decapitated frog who lives for several hours? Is it then in the heart?

"If protoplasm be alive, then life inheres in the nitrogen compounds composing it, or else is an adjunct of matter, impenetrable, elusive, something unconceivable, if undeniable. The life of a cell is necessarily quite distinct from the life of its host, nor can the latter be composed simply of the total numerical lives of its components.

"Some lower animals bear semidivisions, in which case, each half becomes complete by itself. The more highly specialized or complex the cell, the more easily does it part with life; the more difficult is its preservation. We

may assume that, after the death of a man, the most specialized cells are the first to die; or more, that their death precede his own. In the ante-mortem collapse seen in many diseases and poisonings, has not this very thing occurred? The patient has outlived his most important cells. Twenty percent of the cells are actually dead, the rest are bathed in a poisonous medium. Still he endures yet a little while."

#### What Is Death?

Death, on the other hand, is somewhat easier to define, because death in itself is more complete than life. Of course, it is the hope of those who look optimistically upon the efforts of Nature to arrive at her perfect living form, that it will become increasingly easier to define life, and that the manifestation of death may become vaguer, till finally it will cease altogether. At present, however (and the present will extend through several millions of years), death is more real than life and its definition is therefore more complete.

Death is a condition that begins at the moment when the mathematically harmonious and coordinating activity existing among the vital centers of the organism is completely disturbed. Death is of two kinds, physiologic (natural), and pathologic (unnatural). In a brief note published in this magazine (August, 1923, page 586), I discussed this phase of the subject, but, for the sake of completeness, I will recapitulate several points herein. Physiologic death is by far the rarer of the two, and it comes at the age of 140. It is defined as the final culmination of the triumph (unstimulated in their progress by any cause whatsoever) of the conjunctive cells over the specialized cells, bringing about by their unstimulated degenerative invasion of the vital organs, a complete disturbance of the harmonious activity existing among them.\*

#### Pathologic Death

Pathologic death presents the greater problem, because it is so infinite in number and variety. Essentially, however, pathologic death is of three kinds: (1) Mechanical Death; (2) Chemical Death; (3) Abnormal Degenerative Death. Mechanical death is brought about by mechanical injury of the vital system, such as rupture of the heart, mechanical interference with the respiratory system, and mechanical destruction of the organism. Chemical death is brought about by chemical reactions within the organism producing a condition incompatible with harmo-

nious activity of the vital center. In this case, there is a substitution of the poison for the colloidal substance in the tissue. Thus, in the case of poisoning by arsenic, each molecule of the poison substitutes itself for at least six molecules of ionized water of the tissues. The tissues, thus deprived of their normal chemical constituency, are powerless to function normally and, if this is the case with the tissues composing the vital organs, death ensues. Abnormally degenerative death is death brought about by the stimulated activity on the part of the conjunctive cells over the specialized cells. This is caused by disease or introduction into the system of poisonous substances.

But, in the majority of cases pathologic death is scarcely purely a mechanical or chemical death. More often it is a combination of both, or in some cases of all three. The primary variations are (1) mechanical-chemical; (2) chemical-mechanical; (3) mechanical-degenerative; (4) degenerative-chemical; (5) chemical-degenerative; (6) degenerative-mechanical. A mechanical-chemical death is death brought about by a mixed mechanical and chemical disturbance of the vital activity of which the mechanical cause predominates over the chemical one. In the same way we may define the other five of this primary variation.

The secondary variation consists of: (1) mechanical-chemical-degenerative; (2) chemical-mechanical-degenerative; (3) degenerative-chemical-mechanical; (4) degenerative-mechanical-chemical; (5) mechanical-degenerative-chemical; (6) chemical-degenerative-mechanical. A mechanical-chemical-degenerative death is death brought about by a disturbance of the vital activity partaking of every one of the three natures of pathologic death, but in a proportion in which the mechanical predominates over the chemical, which, in turn, predominates the degenerative cause. Similarly, the remaining five of this final variation may be defined.

#### The Possibility of Resurrecting the Dead

Will the time ever come when man will learn the secret of recalling the dead? Evidently it will when a more detailed study of the death phenomena will be made and understood. If serious efforts were made in the laboratory to ascertain more clearly what constitutes life in the higher organism, such as man, and precisely what brings about a disturbance of the vital mechanism, the time would come, no doubt, when it would be within the power of man to reconstruct the

\*Within the complex organism, there is a continuous combat between the primitive and specialized element, the primitive finally conquering. The period for the final triumph of the primitive over the specialized has been calculated to extend through 140 years.

vital mechanism.

Life, as I see it, is the manifestation of the mathematically harmonious and coordinating activity existing among the vital organs. What the vital organs are, is known in a gen-

eral way. The difficult problem is, to arrive at a formula which would represent this coordinating activity.

511 Jerome Street.

## A Big Family to Take Care of

By EDWARD SWALLOW, Mount Vernon, New York

WE are a great family here in America, one to be proud of. Our boys and girls are spoilt a bit, and the baby rules the house, as kind nature, fortunately for infant America, evidently intended it should do in a country where embryo presidents are born every day. Our young men and women work hard and play just as strenuously; which same applies generally to father and mother. We are big earners, big spenders, big givers when a worthy occasion arises, and we have big ideas which fit in with the land itself.

As far as history goes, we have increased and grown quite some since our first birthday, on July 4th, 1776. Then, looking back through all those wonderful years of worthy accomplishments, in all directions making for progress and the betterment of human conditions the world over, some excuse may be found if we whoop it up now and then and make more noise than we should do. Well, a land that can boast of having given birth to such men as Washington, Lincoln, Grant, Edison, Wilson, and scores of others who have added so much to the sum of human happiness in their own particular way, according to the gifts given them, has some reason to give vent to its feelings once in a while.

Yes, indeed, we have accomplished great things since our birth as a nation, the main reason being that we have set up before us high ideals and worked strenuously to acquire knowledge whereby we could put our ideas into action. As a family, we have stuck together and proved that "union is strength." Facts are of value only when applied to the problems of life and, generally speaking, we in this glorious country recognize that, in helping others, we lift ourselves to higher planes along the path which leads to where the whole universe will be brought into the service of mankind. WE are a practical people and apply our knowledge in every line of endeavor to express its value to others as well as reap the benefit ourselves.

### Health—the Salient Factor

The happiness and wellbeing of a family depend chiefly upon the health of its several members. Health is necessary for happiness, but happiness increases health. Health is of vital importance to all of us. A sick man cannot work efficiently and his productiveness or service to the community suffer, naturally enough. We don't expect lame horses to win races, and, in this game of living, we must study to keep ourselves in good physical shape or we are liable to drop into that class of "also rans" that start out well enough but have not the going power to keep up and bear the strain that modern conditions of life require. So, on the principle that the strength of a chain depends upon the strength of each separate link, the happiness and working efficiency and productiveness of a family depends upon the health of its members.

A big family of over 100 million persons, as we are in America, the great majority of whom are busy from morn until night working for the shekels, requires a whole lot of attention to keep in physical fitness so that the nation may function in its different activities, in that large proportion which is the ambition of each worthwhile member. The medical profession has all the responsibility of looking after the health of the nation as a whole, just in the same way as the family physician takes care of the members of one of the nation's family units. An epidemic of a certain disease breaks out and, at once, our medical men and women are "over the top" fighting for the lives and safety of the people with all the forces of science and knowledge at their command.

We hear a whole lot of these so-called drugless healers who, at times:

"With monstrous promise they delude the mind,

And thrive on all that tortures human-kind."

The above quotation applies with equal accuracy to all the cults, isms and faith cure-alls which are nothing more than shady get-rich-



quick methods of making money. If by any chance we had to rely upon any of these gentry, the chiropractors for instance, to take care of all sick people for a day or two, the first few hours would see the finish of half our very sick patients who could afford to pay, and the fortunate poor ones would be entirely left alone by these money grabbers who fatten upon the credulity and ignorance of persons for whom the love philter still has its virtues and potency.

The time may yet come when all these unscientific methods of tinkering with and endangering the health of a large number of our fellow men and women will be recognized in their true significance as being a distinct menace to the progress and efficiency of the nation at large. "The best prophet of the future is the past" and, in the light of our present scientific knowledge, the body is known positively as a chemical and physical system whose proper functioning means useful, efficient and harmonious production of energy which condition we call health. When this is seriously affected, merely to serve the purely mercenary ends of a lot of fakirs whether they be self-deluded or otherwise, the great majority for its own protection may have to pass such laws as to protect the lives and health of those among us who still cling to the superstitions and ignorance of the Dark Ages and enrich a certain class of bluish manipulators of the truth and actually retard the happiness and progress of a great nation.

#### Scientific Medicine

Medical science has progressed of late years until it has reached definite knowledge in the treatment of most of the diseases that we are affected by. The microscope, years ago, opened up new worlds for man to search into in his eagerness to find out the origin of diseases, with the result that the mastery of the microbe, that fruitful source of disease, is one of the triumphs of modern science. In biological therapy, there is reason to expect that, as our knowledge of the actions of antibodies and antigens broadens, we may find the proper treatment for narcotic-drug addiction to lie along the same lines as antitoxin treatment

for certain bacterial diseases. Man has emerged from those crude and barbaric times when (only 150 years ago) the scrapings of a skull and dead men's bones were gravely given for certain complaints by the medical men of those days, because the desire for knowledge has urged him to search after the facts of science in the realms of nature and in the body of man himself.

#### American-Made Remedies

We no longer treat the syphilitic as a moral leper whose disease must be covered up and not mentioned. What we are after, nowadays, is, to stamp out the disease itself by every known scientific remedy and our American scientists, having learnt a severe lesson during the early part of the late war, when syphilis was being practically treated from Germany, having recognized the responsibilities of their position as guardians of the health of our big family in its true sense, have tired once for all time of tagging behind any other nation where the production of remedial agents is concerned. Hence the purely American anti-syphilitics, neoarsphenamine and sulpharsphenamine, which in the hands of our medical profession render us independent of any other country in the world in this respect.

It is every man's duty, both to himself and to his fellow countrymen, to encourage everything American which will help strengthen the physical and moral power of the nation. We have fostered and encouraged many industries here which have resulted in great benefits to ourselves and the world at large. Anything that will add to the security and will conserve the health of our people should be developed right here in our own country. Knowledge is foresight and foresight is power. We cannot all be scientists or original research workers, but there is one thing that each one of us can do, and common sense tells us we should do: *Help and encourage American scientists in their efforts to produce American remedies, so that our medical profession may, under all conditions, with full confidence in the therapeutic agents placed in their hands, take care of this big and ever growing family which is on their hands.*



# Surgical Seminar

Conducted by GUSTAVUS M. BLECH.

## Solution of Problem No. 13

**R**ECAPITULATION.—A farmer, aged 19, returned home from a sleigh ride and complained of feeling chilly, of pains in the epigastrium and of nausea, of headache and pains in his chest.

His family physician saw him the next day with the enumerated symptoms. Examination showed distention of the abdomen, muscular defense and tenderness on pressure. He made a diagnosis of acute appendicitis and ordered complete starvation and an ice bag over the appendiceal region.

The next morning, you are summoned in consultation with the express purpose of performing appendicectomy.

Examination by you, in addition to the above, shows: Pulse 126, regular but bounding; temperature 104° F.; respiration 32, shallow. Face of patient appears flushed, eyes shining, some anxiety in the expression. Heart and lungs reveal nothing on physical examination, but, turning the patient causes him to complain of pain in the region of the liver. The patient has passed neither flatus nor feces since the beginning of his illness.

Tenderness on pressure over the somewhat rigid abdominal muscles is most pronounced in the right upper quadrant, but present almost everywhere. The urine is smoky and reddish; specific gravity, 1026; free from albumin and sugar. A hastily performed blood-count shows 15,000 leucocytes with 85% polymorphonuclears.

The requirement calls for your decision as consultant with reference to diagnosis and therapy.

**Solution by General Geo. Acheson,  
Kingston, N. B., Canada**

After hearing the history from the attending physician, noting the various symptoms, and making a physical examination, I strongly suspect acute lobar pneumonia in the right lower lobe, at the same time bearing in mind the possibility of appendicitis. And, the more closely I consider the signs and symptoms, the more do I lean to a diagnosis of pneu-

monia. Let us take the facts seriatim.

1.—The onset (somewhat sudden, a chill following exposure) is common in pneumonia, not the usual event in a commencing appendicitis.

2.—Pain in the epigastrium and desire to vomit are suggestive of appendicitis, but also frequently found in initial stages of basal pneumonia, especially if the diaphragmatic pleura is involved, or the intercostal nerves.

3. Headache and pains in chest are more symptomatic of pneumonia than of appendicitis.

4.—Pulse 126, regular, bounding, is typical of pneumonia; while, in the differential diagnosis of appendicitis in the early stage, the character of the pulse has little value.

5.—Temperature 104° F. is usual in pneumonia, unusual in appendicitis.

6.—Respirations 32, rather shallow, might be found in either disease.

7.—Face flushed, with shining eyes and anxious expression, points rather to pneumonia.

8.—Heart and lungs on careful examination reveal nothing abnormal. This might incline us to eliminate pneumonia, but it is to be remembered that positive physical signs of a pneumonic process are very difficult to elicit in the early stages of the disease, and slight deviations from normal are apt to be overlooked.

9.—Pain in region of liver, caused by movement of thorax is probably referred from intercostal nerves involved in pneumonic process.

10.—Abdominal distention, with absence of bowel movement, might be looked for in either disease, and is in fact frequent in pneumonia.

11.—Tenderness and rigidity of the abdominal muscles, especially in the right upper quadrant, looks like appendicitis, but these signs are not incompatible with pneumonia. (vide 2 and 9).

12.—The urine is what one might expect in most febrile conditions.

13.—The leucocytosis present is merely symptomatic of some acute local infection.

14.—Absence of cough (presumably, as cough is not mentioned) might make one hesitate in a diagnosis of pneumonia, but in the early stages this is by no means a prominent symptom, though later a constant and important one.

Consideration of these "14 points" lead me to conclude that this patient is suffering from acute lobar pneumonia; that, so far, the prognosis is favorable; and that no surgical treatment is indicated.

Other acute abdominal diseases, *e. g.*, perforated gastric or duodenal ulcer, acute pancreatitis, cholecystitis, or acute peritonitis from any other cause may be ruled out.

**Solution by Dr. I. E. Crack,**  
Hamilton, Ont., Canada

On the surface, this very interesting problem seems to be entirely surgical, and one thinks of acute appendicitis. A more careful consideration of the onset of the trouble leads me to doubt such a diagnosis. Chills or even chilly feelings are rare at the onset of appendicitis and complaints of headache and pains in the chest the more unusual. An abdominal pathology of this severity is almost certain to cause vomiting. The pulse, temperature and facial expression are typical of pneumonia.

I believe that the man has a small, deep-seated patch of pneumonia with a diaphragmatic pleurisy. As consultant, I would not advise opening the abdomen, as I believe the pathology to be above the diaphragm. The patient should be kept under very careful observation, preferably in a hospital. I would give an enema, apply fomentations to the abdomen and restrict nourishment temporarily to liquids.

This case reminds me of one I had several years ago, in the country. A boy, five years of age, was taken suddenly ill with pains in the upper abdomen, nausea, tenderness, distention and some rigidity of the abdominal wall. Temperature 102 to 103, pulse 130. I called a very able surgeon who advised opening the abdomen. This was refused and, after watching the child carefully for a few days, I discovered a very pronounced friction sound at the base of the lung (left) with a pericardial friction rub. No dullness or other sign could be found in the chest at any time and the child made a protracted but perfect recovery. Such experiences linger in one's mind. The Seminar problems certainly stimulate thought.

**Solution by Dr. A. V. Bergquist,**  
Chicago, Ill.

Suggestions for the diagnosis of Surgical

Problem No. 13.

1.—Pneumonia of the right lower lobe.

2.—Cholecystitis, acute suppurative.

3.—Acute right-sided diaphragmatic pleurisy.

1.—*Pneumonia*.—The onset, rather sudden, following a sleigh ride, with chills would suggest a respiratory condition. The chilly sensation followed by headache, pains in the chest, nausea but no vomiting, may well be the result of a pneumonia. The temperature of 104 is more suggestive of respiratory conditions than of an appendicitis. The pulse rate of 126 is in keeping. The respiratory rate of 32 is suggestive of pulmonary disturbance. A white-cell count of 15,000 is higher than the usual count in an appendicitis. The rather indefinite symptom of abdominal distention occurs just as well in pneumonia as in abdominal lesions.

The pulmonary findings at the time were possibly not sufficiently developed, but might be in full bloom after a period of some hours. There was no statement as to any cough, neither was anything said about expectoration, pain on breathing and, consequently, our statements regarding these are not of any value. Pneumonia may well fit in with this symptom complex, as stated. It certainly should be considered before any surgical intervention be tried. It seems to me that the patient was examined only from the viewpoint of a surgical case. Certainly, pneumonias involving the right lower lobe, and with it the diaphragm, can give rise to abdominal diagnoses, the most common ones being, of course, acute appendicitis and acute cholecystitis. Fluoroscopic work would help but, according to Dr. Preble, should not be used.

2.—Acute suppurative cholecystitis, in common with infectious conditions elsewhere, may be ushered in with a chill. Nausea is invariably present. Vomiting usually occurs. The vomitus is commonly bile-stained, but this has no diagnostic value. The location of the pain in the upper right quadrant would favor a gall-bladder lesion. The fact that, on examination, the patient had severe pain which he localized in the region just below the liver and costal edge would also point to the gall bladder. Stones may be present in the bladder without symptoms. Frequently, the gall bladder is palpable. This is certainly the first surgical diagnosis to be thought of. Jaundice is not a constant finding and may never have occurred in the history of the case.

3.—Acute right-sided pleuritis (diaphragmatic). The mode of onset of this condition is often of a similar type. It will give rise to the same group of abdominal symptoms on ac-

count of the reflex nerve condition. The high white count is not out of keeping. Nausea and vomiting frequently occur. The findings may be obscure, but they are serious enough to be considered and very carefully ruled out.

4.—Other possibilities.

A.—Acute Appendicitis. In some cases, where there is a long appendix, retroperitoneal, attaching to or in the vicinity of the gall bladder, it may easily be mistaken for an acute cholecystitis. Retroperitoneal appendicitis regardless of the distal attachment should be considered.

B.—Urinary System. a. Embolic nephritis is practically ruled out by the lack of urinary findings. The pain is practically in the right location. b. Pyelitis is also ruled out by the negative urinary findings.

C.—Intussusception in the right side of the belly should be thought of, although it occurs chiefly in children. No definite findings are noted.

In conclusion, I would state that the condition seems to me to be either an acute cholecystitis or a pneumonia. When, on my junior surgery service at Cook County Hospital, I had the pleasure of doing my first appendectomy on a child that was transferred from the pediatrics service on a diagnosis of acute appendicitis, within twelve hours, this proved to be a full-blossomed right-lower-lobe, lobar pneumonia, and a lesson was taught me that I will never forget, and one which always remains in my mind when I see a case of an "acute abdomen."

**Solution by Dr. J. L. Pritchard,  
San Jose, Cal.**

If I were the consultant in problem No. 13, I would not be able to come to a definite decision as to the diagnosis with the data as stated. My decision, however, would be, to send the man to a hospital and have an x-ray picture of the chest. I would treat the symptoms as they exist, having in mind the strong probability of pneumonia.

The position of the right leg, together with a rectal examination would give valuable information in coming to a conclusion about an appendicitis. I would consider the probable conditions in the following order: Pneumonia, appendicitis, liver abscess, acute hydronephrosis. In general practice, a pneumonia often is confused with appendicitis.

**Solution by Dr. A. E. Wellman,  
Waterloo, Ont., Canada**

Reading of the several discussions of problem No. 12, certainly proved very interesting to me and I am tempted to offer my diagnosis

in problem No. 13 in as few words as possible, since the presentation of the case, as seen by the editor of Seminar, makes detailed discussion virtually unnecessary.

It is plain to me that we have to deal with a case of deep-seated pneumonia which involves the lower part of the right lung, and a diaphragmatic pleurisy.

**Solution by Dr. E. C. Junger,  
Soldier, Iowa**

As I am watching the problems and their discussions in the Seminar, from month to month, interest is constantly kept at the maximum. One wonders how this kind of scientific work affects the other readers. I confess that, for my part, I am wondering only that this department does not involve a flood of communications necessitating a clerical force for their disposition.

Permit me just a few words with reference to Problem No. 13. I am not a superstitious man by any means, but I cannot help thinking that "13" is an unlucky number, especially for the young farmer lad. Were I the consultant in the case and enabled to see the patient just as the editor has described him to be, I would say to the attending physician in unmistakable language: Stay out of that belly and watch the chest—the young man is developing a case of pneumonia, or, to be more exact, a low pleuropneumonia.

**Solution by Dr. J. A. Dungan,  
Greeley, Colo.**

The Seminar is proving a very helpful thing as it causes us all to study. Here are my ideas of problem No. 13.

It would appear that this young man may have suffered some traumatism during his sleigh-ride. Several things might have taken place as a result in the upper right quadrant. I should scout the theory of appendicitis, although the comparative blood count would favor it. Diaphragmatic-pneumonia is unlikely from the negative chest findings after two days and the continuance of abdominal symptoms. Acute dilatation of stomach is negated by the height of the fever and the absence of vomiting. The incarceration of some hollow viscus by hernia, as for instance the duodenum, into the foramen of Winslow as a result of traumatism is a thing likely to have occurred in this case, with resultant obstruction of bowels, leucocytosis and beginning peritonitis. My recommendation as consultant, in the way of treatment, would be an exploratory operation in the region of the gall-bladder and a thorough search for an incarcerated (strangulated) viscus.

**Solution by Dr. Henry L. Davis,  
Battle Mountain, Nevada**

After having served under you for several months in B. H. No. 208, A. E. F., and having taken a silent part in the discussions in the "Surgical Seminar" for the past two years, I feel that I should lend my support to your efforts by sending in an occasional solution to the problems presented.

If I had been the consultant sent for in the case concerned in Surgical Problem No. 13, I would have refrained from opening my emergency outfit, much less the patient's abdomen.

From the history of the case, together with the physical and laboratory findings, I take this to be a case of acute infectious cholecystitis, probably catarrhal. Of course, an absolute differential diagnosis of the different forms of cholecystitis cannot be made without resorting to an operation and, if the patient did not progress favorably under the treatment I outlined, I should be prepared to institute operative treatment.

As regards treatment in this case, I would advise absolute rest, moderate doses of morphine for pain, rectal feeding, and stimulating treatment if indicated. If the symptoms did not subside under this conservative treatment within a reasonable length of time, I would suspect a more serious type of cholecystitis and resort to operative measures.

**Editorial Comment**

First, I desire to express my sincere appreciation to all who have sent in solutions. In view of the next-following problem, I have been unable to publish all letters some of which deserve to be published.

When I presented for your consideration Problem No. 13, I had done so only after a hard mental struggle. I did not think the case sufficiently interesting for our readers.

What prompted me to publish it was a peculiar incident. One of our recent graduates, working as an externe in one of the hospitals with which I am connected, came to me, a few weeks since, and told me that he had failed in surgery before a recent state board examination. He thought that it was principally because he gave as appendicitis what was meant as a "catch" to show whether a physician ever thinks of pneumonia in apparent appendicitis. For, the comrades who had diagnosed pneumonia were given state licenses.

I happen to know the examiner who framed the question. He is a prominent surgeon who cares less about the "unusual" operative skill

of candidates for licensure (which is not expected) but more whether the men seeking the right to practice will not kill unnecessarily. And this decided me for obvious reasons.

I have seen four or five cases of the type I have given. In one (I was a young man then) I came very near doing what Dr. Bergquist has done; only the parents were wise enough to call in another physician and he advised a conservative policy. Fortunately for my bread and butter, the patient died from the pneumonia, so that, to my great surprise, the mother told my then very young wife, that had I operated, the child would have been saved. And my wife, all aglow with the knowledge what a wonderful husband she had, could hardly wait for dinner to tell me that. It was hard to swallow but, I confess, I played the role of hero since it was no use crying over spilled milk.

As I have said in the introductory note to the problem: the case is simple yet of tremendous importance, since a failure to make a correct diagnosis would result in a therapeutic measure of great risk under the conditions. General Acheson and Dr. Bergquist have gone into details, so I need not give my reasons as to why I, too, diagnosed a deep-seated pneumonia which was manifest to me by the symptoms rather than by the physical findings. I am, nevertheless, glad to publish Dr. Davis' letter as well as that of Dr. Dungan, though both gentlemen hold rather aggressive views. Dr. Dungan needs no introduction to the readers of CLINICAL MEDICINE as a scientific physician, his recent contributions testifying to his ability. Dr. Davis, has done splendid work in the surgical service of Base Hospital 208, which, as many readers will recall from my book on the world war, was a very large institution. Dr. Davis is now medical director of a hospital and I feel that I could trust myself into his hands, certain to receive proper treatment.

That is just it, I mean this difference of opinion. If we all thought alike, there would be no *raison d'être* for the Seminar, and it is only by an exchange of ideas that we think broadly enough to include all sides of any given problem.

Only one more word and I am done. The attending physician told me that, if I did not operate on that boy, his reputation as an "infallible diagnostician" was done for forever and ever. Well, we did not operate and the doctor is one of my best friends—I operated but very recently for him—and, yet, neither



the parents nor his competitors nor his clients were given an opportunity to doubt his ability as a diagnostician. A little tact was all that was necessary. That in itself is a subject worthy of one month's Seminar. Some day, Achard can get out a department of medical reminiscences and then we can tell how it feels to be overshadowed by a "professor" and have the big man get all the glory even when it was actually the general practitioner who deserved it. One or two of such galling experiences have embittered me against "consultations" of this class. However, I learned enough and felt enough about the ordinary principles of decency to make a consultation today a matter of pleasure and not of chagrin to him, who honors me with his confidence.\*

\* There's no need of a separate department of reminiscences. We can take care of them perfectly "as is". Just send them along.—Ed. A.

### Surgical Problem No. 15

The following letter was received by me from a California physician who served with me in my hospitals in Autun and Bordeaux and returned with me from France, in June, 1919. The letter has been edited to omit superfluities and repetitions. The doctor seems to be seriously ill and I submit his trouble in the form of a problem, because solutions may prove of great help to him. I have written the doctor a personal letter, but I told him that my opinion is not infallible. The doctor writes:

"Since my return from France, I have spent more than half of the time in hospitals without obtaining relief. The specialists who have examined and treated me are not agreed in their diagnoses nor have they obtained any decided results.

"I was in fine health until 1905, when I was operated on for chronic appendicitis. The appendix was five inches long and adherent to the posterior side of the bladder. Health good until 1914, when I began to suffer from lumbago, constipation and colitis with pains in the appendiceal region, especially so after partaking of a rich dinner. In 1915, I underwent a tonsillectomy but with no definite results. In 1917, I experienced suddenly severe pains in the lumbar region and over the appendiceal region, with a "catch" in the back which prevented me from walking or straightening up, as this increased the pains. I was confined to bed for 12 days, at Fort Douglas, Utah, and was sent to Letterman General Hospital (San Francisco). There I remained in bed for eighteen days and, on December

18 (1917), was operated on for Lane's kink with but temporary relief.

"In June, 1919, I was again in San Francisco and placed myself under the care of Dr. Herbert Moffitt of the University of California, who ordered the usual gastroenterologic examinations. I received medicinal and dietetic treatment for colitis—without benefit.

"In the fall of 1920, I once more returned to San Francisco and was seen by Dr. Cooper (in the absence of Dr. Moffitt) who found nothing especially wrong. Dr. Rigdon was called in as urologist, but he, too, found nothing wrong. I returned home, treated myself; but every three to six months would give out completely and become entirely incapacitated for work.

"Early in 1922, I decided to visit the Mayo Brothers. I spent there twenty-four days and here is Dr. Eastman's opinion:

"An area of tenderness over the right sacroiliac synchondrosis, the clinical tests suggesting possible subluxation. Neurological examinations show slightly diminished patellar reflexes as well as slightly diminished fork conduction, slight Rombergism, anisocoria, suggestion of mild cerebral arteriosclerosis (non-luetic). There is retention of a slight amount of barium in the cecum up to forty-eight hours. The cecal outline following the barium clysmas, however, was fairly regular. Operative interference is not indicated for the low-grade intestinal stasis."

"The diagnosis was given as: chronic constipation with low-grade cecal stasis, neurasthenia of the fatigue type, general irritability of the autonomic nervous system, particularly of the pelvic centers, right sacroiliac subluxation.

"The treatment advised was: a suitable belt, laxative diet, exercise, agar-agar, etc.

"I went home and got along somehow until fall. November 6, I entered Stanford University Hospital for sciatica consequent to a manipulation for the relief of the iliosacral pain (in October). The day following the manipulation, a burning sensation started down the left leg from the hip, along the sciatic nerve, spreading or advancing down the leg about two inches a day. Finally, the pain became so severe that I could not use the leg without difficulty.

"On my arrival at the hospital, I was placed under the observation of several leading neurologists, internists and surgeons; forty days of intense suffering followed without relief being obtained. A laminectomy was performed

[Concluded on page 202]

# The General Practitioner

Talks About Professional and Personal Problems

Conducted by WM. RITTENHOUSE.

## Some Thoughts on Economics

THE world is slowly waking up to the fact that, in all the affairs of life, prevention of evils is better than cure. The crusade for "safety first," the prevention of fires, the movement looking towards the conservation of our forests, and many similar activities are all signs that we are beginning to realize the folly of letting evils develop so far as to require a remedy. Most troubles are preventable by the exercise of a wise foresight.

The same holds good in the practice of medicine. The tendency of the time is, to put emphasis upon preventive medicine, even though the medical profession is thereby cutting the ground from under its own feet. No other profession is working against its own financial advantage to the same extent. Teaching the public how to prevent disease, ought to be rewarded even more liberally than the treatment of disease, but that is an idea that the public will not properly appreciate until they are educated up to it.

Perhaps the time will never come when the doctor will be purely and simply what his name indicates ("doctor" means "teacher"). But, no reason is apparent why he should not even now combine the teaching of prevention with the relief of suffering.

His families ought to be willing to remunerate him at least in part for instruction on how to keep well besides paying him for service if sickness comes. That may seem Utopian; but, is it? If even some sickness were prevented, both, patient and doctor, would be benefited: the patient would be spared expense, suffering, loss of time, interference with the duties of life, etc.; the doctor's work would be more agreeable, and he would be spared the mortification of trying to accomplish the impossible with remedies. As for his remuneration, it would be possible to work out a schedule by which he would receive a certain amount annually or in monthly instalments for instruction in prevention of sickness, and a certain other amount, perhaps at a reduced rate, for

attendance and treatment, if sickness occurred. The latter would be necessary, because it could not be expected that *all* illness could be prevented. The plan that has often been proposed in a joking way, to pay the doctor as long as the patient was well and to stop the remuneration if he became sick, would be most unfair to the doctor, because the illness might be due to disregarding his advice.

Under the present system, the doctor suffers much injustice, since a dishonest patient can often get a great deal of valuable service and escape paying for it, because in acute illness it is often impossible to avoid giving credit for attendance. Office practice can usually be put on a cash basis; but, in illness requiring the doctor's attendance at the patient's home or at a hospital, it is not practicable and would sometimes be most inhuman to refuse service unless paid cash down. If the doctor's remuneration were in part for instruction on how to keep well, that part could be required in monthly installments and, if not paid, the instruction could be withheld. The problem is not altogether a simple one, but a solution would be possible.

The suggestions in Dr. Bryce's article, in the January number of *CLINICAL MEDICINE*, on the art of making the practice of medicine yield proper returns, are most excellent. Although the doctor had them brought to his attention by a man who was not ethical in some of his methods, yet some of the ideas are sound and practical, and not in the least dishonest. Dr. Bryce is to be congratulated on having had the courage to learn something from an irregular. Probably, most of us can look back over the past and see where we might have made our practice yield better returns by more business-like methods. Why should we be so considerate of the feelings and pocket books of the public? They have little enough consideration for us.

## The Nausea of Pregnancy

But, this is a digression, and it is time to take up the consideration of our subject, the

nausea of pregnancy. This is a disorder which is perhaps difficult to prevent. Its treatment is very unsatisfactory, and, if prevention is possible, it is certainly most desirable. When we refer to the textbooks for information, we find a very large number of remedies suggested. This usually means that a disorder is difficult to treat; for, if we knew of a successful treatment, it would not be necessary to mention so many others.

When I refer to my best textbook on obstetrics, I find more than a dozen remedies suggested for this nausea—and sometimes they all fail! So, prevention would be most desirable. Is it possible? To some extent, I think it is. Here, just as I stated in discussing albuminuria, the patient who at all times exercises a reasonable degree of hygiene in all her habits, and especially in eating, dressing, and exercising, is more likely to escape this distressing condition of the stomach, which with some women renders pregnancy one long martyrdom.

Of course, we must bear in mind that this nausea is a reflex phenomenon, and is to a considerable degree due to an abnormal condition of the nervous system; and it might be argued that on this account little could be done in the way of prevention. But, is this the case? Is not that abnormal condition of the nerves itself due in many cases to unhygienic habits of living?

I have under observation at present a patient who belongs to that nervous, erratic group that are a trial to themselves and to those by whom they are surrounded. While such a state of the nervous system is probably to some extent inherited or constitutional, still, rigid self-discipline and self-control in regard to manner of living will do much to mitigate the condition.

In her first pregnancy, this patient was so miserable from nausea that she became a little more tractable in following my advice to reform her extremely bad habits of eating, etc., in the interval before her next pregnancy. She obeyed my instructions fairly well, with the result that, when her second pregnancy occurred, she suffered comparatively little. This was a clear case of prevention being better than cure, and I have had a number of similar cases.

But, great reforms come slowly, and it will be a long time before mankind recognizes fully how much better it is to prevent illness than to endure it. The chief difficulty lies in the fact that it requires not only knowledge but self-denial, and here is where the shoe

pinches. The vast majority of the human race will indulge their appetites and passions even when they know that they will have to pay the penalty.

A man consulted a specialist about his eyes. After an examination, the doctor said to him, "If you go on drinking that whisky, you will be stone-blind inside of six months." The man reflected awhile, and then said, "Well, doc, that's a pretty tough sentence to hand a fellow; but I have lived a long time, and I guess I have seen pretty much of everything that's worth while!"

There are a good many people who reason in the same way. "A short life and a merry one!"

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I have no doubt, a good many of my readers will differ with me as to the possibility of preventing nausea of pregnancy. The time was when I would have questioned it myself. But, I have in the past ten years made a special study of the whole subject of prevention and have come to the conclusion that much more can be accomplished than is generally believed.

Of course, some patients are not intelligent enough to cooperate with the doctor in his efforts to prevent illness. To try to teach them, is simply "casting pearls," as the professor remarked to an unruly class. Said he, "Tomorrow at ten, I will be here to cast a few more pearls."

Other patients can understand, but are too self-indulgent to care one way or the other. They must simply pay the penalty when it comes. Some are in earnest, but have a weak will. Persons who realize the folly of violating the laws of health, and yet have so little will-power that they spend their time vibrating between transgression and repentance, are objects of pity not unmixed with contempt. They do not really lack the will-power, but they are too indolent to arouse themselves and use their wills. The drunkard, the drug addict, the glutton are examples of this kind. To cure any of them, we must get them to realize that exercising the will strengthens it, and that, the longer we practice self-control, the easier it becomes.

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When a pregnant woman puts herself under my care, the first thing I do is, to impress strongly upon her the idea that she can escape much discomfort by giving careful attention to hygiene, especially in the matter of diet and keeping her bowels in good condition. Constipation and the accompanying infection of the system constitute very often the main fac-

tors in producing nausea, and it is most important to give it attention both, as a matter of prevention and for relief where it has already set in. When severe nausea has developed, it is rather difficult to treat, either by diet or by means of laxatives, because nothing will stay on the stomach; hence the importance of prevention by beginning early. A laxative that works well with one person may not do so with another; so, it may be necessary to experiment a little to find the best one for a given case. The same holds good in diet. Each person must find by experiment what food agrees best with the stomach. No hard and fast rule can be laid down for everybody, any further than to say that the diet should be simple, wholesome, and palatable (with an emphasis upon each of those three adjectives).

Among remedies for relief of nausea the following may be mentioned:

- 1.—Lactopeptine—before or after meals—try both.
- 2.—Bismuth subnitrate—large doses.
- 3.—Fowler's solution—drop doses.
- 4.—Tincture nux vomica—drop doses.
- 5.—Bromides (effervescing).
- 6.—Carbonated waters—Vichy, seltzer, etc.
- 7.—Champagne.
- 8.—Cerium Oxalate (with caution).
- 9.—Unusual food.
- 10.—A midnight meal.
- 11.—Dilating external os—primipara only—and only in extreme cases.
- 12.—Abortion—only to save mother's life.

As to laxatives, I have found the following suggestions useful:

The old and well-known formula of Aloin, Belladonna, Strychnine and Ipecac has served me well oftener than any other prescription. In some cases, I found it an improvement to add one grain of phenolphthalein. A short time ago, I had a case where this combination, doubled, worked just right.

Let me emphasize that such a laxative should not be taken oftener than every three or four days—say, twice a week. If taken oftener, it soon loses its effect, because the bowel acquires a tolerance for it. In all attempts to cure constipation in any condition, this should be borne in mind. Taking a laxative every three or four days, gives nature a chance to assert herself without acquiring a tolerance for the remedy; and a clearing out twice a week will keep down autoinfection. If there is no bowel movement in the interval, the patient need not be alarmed. After 25 feet of intestine has been swept clean, it would be useless to expect a bowel action the next day.

Cascara sagrada, either alone or with aloin, works well with some patients.

Epsom salts and castor oil I abandoned years

ago as not fit for the human stomach. Here some of my old friends will rise to protest; but I can't help it, I am very much in earnest. Why use the nasty messes when we have palatable substitutes?

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### Cooperating With the Postal Service

The Post Office Department and especially the postmaster of Chicago again call attention to the importance of cooperating with the mail service to secure prompt delivery of mail. The department is chronically short-handed, because Congress is niggardly in its appropriations. But the public can do much to facilitate prompt delivery by observing certain rules whose value ought to be self-evident. Everything that adds to the work of the mail clerks slows delivery by just that much.

Here are rules that will help you by helping the clerks:

- 1.—Put the street and number into the address of every piece of mail. No matter how well known a firm is, omission of this will mean delay.
- 2.—Put the sender's address on the upper left-hand corner of the envelope, and *not* on the flap of the envelope, because that makes it necessary to turn it over to read it.
- 3.—Do not use very small or oddly-shaped envelopes.
- 4.—Put the stamp on the upper right-hand corner of the envelope.
- 5.—Do not write "City." Use the name of the city.
- 6.—Send outgoing mail to the post office early and often. To let it accumulate until nearly evening and then dump it all at once, is not fair to the mail clerks or to yourself.
- 7.—Write all addresses plainly.

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### Book Review

A Man From Maine. By Edward W. Bok.\* 279 pages. 16 Illustrations. New York: Charles Scribner's Sons. 1923. Price \$3.00.

In "The Americanization of Edward Bok" the author gave us a most remarkable autobiography, and in "A Man From Maine" he has shown equal brilliancy as a biographer of others, for the latter is the life story of Mr. Bok's father-in-law, Cyrus H. K. Curtis, owner of *The Ladies' Home Journal*, *The Saturday Evening Post*, *The Country Gentleman*, and *The Philadelphia Public Ledger*, as well as of the immense buildings that house these

\*This book was reviewed in the September, 1923, issue of this journal (page 705); but Dr. Rittenhouse's discussion is too good to be suppressed.—Ed.

publications. The story of the life of Cyrus Curtis is as remarkable as that of Edward Bok. Both rose to prominence in the business world from humble positions, and both are examples of the power that character carries with it. Fiction does not contain anything more striking or romantic than these two careers.

Mr. Curtis began his business life at the age of 12, and, at 13, he was publishing a very creditable little paper called *Young America*.

Most young men enter business with the idea that it is a daily grind and a monotonous routine. How far this is from the truth, I can express best by quoting from the preface of the book.

"Instead of business being a daily grind or a deadly routine, it is really a romance of the most thrilling order; an adventure filled with the most fascinating incidents.

"Take this life of Mr. Curtis and just consider two or three high points. Here is a little boy selling the newspapers made by other men and, within a brief span of time, you see tens of thousands of boys selling the publications made by Mr. Curtis. In other words, you see an amazing metamorphosis of the buyer of a few papers becoming the seller of millions. Is this prosaic? Is this a dry fact?

"Compare the picture of a boy without twenty-five cents to go and see a monitor lying in Portland harbor and, with a dog, climbing on a log and paddling his way out to the ship until the crew lift him aboard, with the picture of the same boy, some years later, sailing into the same harbor on his own yacht: one of the largest pleasure-vessels in the United States. What is this if it is not romance?

"Fancy a boy accidentally finding on a hotel reading-room table the picture of a new building in Philadelphia, the first building exclusively devoted to a newspaper in the United States; looking at the picture with the eyes of wonder; going to the Quaker city so as to see the building for his own confirmation, and some years later owning that same building and the newspaper which it housed. What is this if it is not adventure of the most adventuresome order? \*

"And that is business of whatever sort; the most marvellously fascinating game ever devised and played by men: a game so varied in its nature as to call forth all the attributes of mankind; all the knowledge a man can acquire; all the vitality he can summon; every quality of which he is capable. Take alone the quality of personal courage required in

business, and you have before you the greatest human drama ever staged by the hands of man. The three really great things in the world are, a mountain, the ocean, and an earnest man at his work. The potentialities of each are beyond human calculation.

"So, the story here told seeks not merely to trace a business life, but to emphasize the great truth, particularly to young men, that business is a great adventure: a well of romance so rich in its thrilling moments that no man has ever sounded its depths. Enough remains for thousands of young men who approach it with eager zest, enthusiastic effort, and alert minds. To such it will prove what it is: an arena and a university with its limits only fixed by themselves; a game so full of romance and adventure as to surpass the imagination of the greatest fictionist. But a young man must hold on to one essential fact: *that the current coin in business, and the only coin that is consistently current, is character.* (Italics ours.—Ed.) And, to a clear realization of that fact, he must add the strongest belief that character is of inner self, and that the inner self is Divine in creation and Divine in guidance."

One episode in the building up of *The Ladies' Home Journal* by Mr. Curtis, is of special interest to the medical profession. After he had bought the magazine when it was in a moribund condition, and he was gradually getting it on its feet, but before success was assured, he decided to clean house so far as questionable advertising was concerned. In those days, all the magazines carried the advertising of patent and proprietary medicines. It was their main source of revenue. Mr. Curtis came to the conclusion that it was not "clean money," and, with him, to decide was to act. He made a clean sweep of it. He set a date after which no more of this kind of advertising would be accepted. Shortly after this, one Friday, the pay-roll had to be made up and there was not nearly enough money in the bank to meet it. His credit had been strained to the utmost, and his treasurer was in despair. That morning, Mr. Curtis and the treasurer were going through the mail hoping to find enough checks to tide over the difficulty; but they were disappointed; the receipts were light. As Mr. Curtis opened one of the last of the pile of letters, out dropped a certified check for \$18,000. For a moment there was a sigh of relief; then an "Oh" from Mr. Curtis, and "Of course we can't take that," and he pencilled on the envelope, "Return."

[Concluded on page 202]



# Let's Talk it Over

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## Dr. Bryce's Talks

### When I Needed a Guardian!

IN the hope that others may take warning from the experience that I brought years ago, at a pretty steep price, I am tempted to give an account of an experiment that I undertook at a time when I must have been financially color-blind, but which was thoroughly effective in correcting the fault. I suppose, that most of us can look back and see where we might have acted differently in certain matters, had we possessed the knowledge and experience that we now enjoy, but we get precious little comfort from this after-discovered knowledge.

I had reached that stage in my professional life when I began to feel that I could ease up a little and actually indulge in some of the very simple extravagances for the enjoyment of my dear wife and my growing young hopefuls; for I had at that time four very promising representatives of the Bryce family, the oldest not over twelve years. The particular thing that I craved then and on which, in my blindness, I was dying to throw away the thousand or two of dollars I had managed to save, was a country place—a farm where I could spend my summers and let the children have a good time living in the open and enjoying nature to the fullest extent. The idea grew upon me with such force that I saw everything connected with rural life in colors more beautiful than the tints of the rainbow, and I have since regretted that this was one of the few things that my wife somehow agreed with me about without much effort on my part to convince her.

I had had a little foretaste of summering in the country with the wife and the brood including a very spoiled negro nurse, but the cares and worries devolved upon the family who, for a very modest consideration, undertook to make our entire sojourn among them just one long "perfect day," and I had no idea what was ahead of me when I undertook the job on my own hook. So, not knowing the dangers that confronted me, I began with the approaching spring to scan the adver-

tisements of the real-estate dealers in every morning paper for "farms," "country homes," "rural retreats," and other appealing spots regardless of where or what they were. Finally, one morning, I read a particularly catchy announcement of a typical old home about fifty miles from Richmond on a main railway line, "to be sold for division."

"Sold for division" somehow got me as likely to be a bargain chance and, finding that we had about two hours to fix up and get to the depot, my wife and I concluded to take the train that very day and look the place over and, if we liked it, to hurry up and buy it before some other home seeker grabbed it. It was a beautiful spring day and, after a ride of an hour and a half, we arrived at the station mentioned in the advertisement and learned from the storekeeper the proper path to take through the woods to reach the farm. The usual crowd of gaping idlers was gathered about the store front, and I thought I discerned an amused expression upon their faces, though they said nothing to indicate their thoughts when we asked about the farm. The only thing that hinted that we were on a fool's errand was merely a caution from an old German woman through whose farm we passed to reach the object of our search. After directing us on our way she very modestly inquired:

"Ish you a mind to buy dot place?"

"I thought of looking it over."

"Haf dey gif you a brise on it?" she asked.

"No, not yet."

"Vell I would not bay de virst brise dey gif me," she said, and gave me a significant wink.

I asked her how long the place had been offered for sale, and she said "Oh, zeveral years, and many haf been to see it but none haf efer bought it after looking at it vonce alretty."

Of course, all along my checkered career in that farm business, I never gave the slightest thought to the kindly advice of the well meaning old woman, but was so red hot to

buy a farm that I actually told my wife I thought the old woman was trying to keep us from buying the place in order to buy it herself.

When we emerged from the body of dense pines, we came upon a clearing of nearly a hundred acres and took a bird's eye squint at the panorama that nature had so lavishly decorated with her spring glories—fields verdant with the softest grass, violets, buttercups and bluebottles, while the stately old locusts, surrounding the old ramshackled dormer-windowed, long bodied house on the hill were white with their abundant bloom. To two city greenhorns, the sight was one of a terrestrial paradise, and our doom was sealed then and there.

The papers were quickly fixed and, as soon as I paid off the mortgage on the old place, they gave me a clear title to one hundred and sixty-seven acres of poor land hastily snapped up at their own price. Well, I do not suppose that I am the only one who ever acted first and then had time to think afterwards. But I certainly had much opportunity to meditate over my folly after I became a medico-agriculturist. It has been truly said, not very elegantly but nevertheless most truthfully, that, if a man's foresight were half as good as his hindsight, he would be a philosopher indeed.

Among the several attractions that induced me to get possession of this crumbling heirloom of a mansion and its surrounding grounds, was a large orchard of fairly good looking apple trees, and I consoled myself with the thought that, if fruit was healthy for children, I certainly would have a healthy family from the prospects then before me. When I had recorded my deed and hidden it away in the bottom bureau drawer where I kept the few papers I considered valuable, I somewhat recovered from the excitement of buying so much real estate and found time to think a little, and suddenly it dawned upon me that I had verified the adage: A fool and his money are soon parted. I realized that I had bought something besides a farm. I had bought trouble, and the possibilities loomed up in many directions. My troubles thickened rapidly. The summer time was coming on and the youngsters were growing restive for the freedom of the great outdoors, but I was confronted with the fact that I would have to carry my nurse and cook as well as my food supplies out with me, as my farm was not outfitted at that time with an equipment for

raising my produce. The truth was, I had to board on my farm, if I were to summer that first year of my ownership. I knew I had made a big mistake, and I lacked the nerve to own up and get out of it. When a fellow is in trouble, it is wonderful how the difficulties multiply from every angle and, when I look back now on the experiences of the time that I possessed that farm, I wonder that I was allowed to go at large, though I suppose I was considered harmless towards everybody except myself.

Accordingly, I arranged with the tenant on the place to continue living there, and reserved half of the house for the use of my family when we wished to summer. Under the terms of agreement, the tenant was to supply my family with all needed poultry, eggs, milk, butter and vegetables at "prevailing neighborhood prices," and, for the time being, my prospective anxieties were considerably lightened. About the first of June, I concluded that, if we were going to "summer," it was time to commence. But, I observed that my wife had avoided making any mention of this momentous undertaking for some time, and I timorously inquired if she didn't think we had better commence packing for our move to the country?

"Well, what do you think we had better pack?" she said.

For the first time, I realized the enormous job I had undertaken; for, we had to pack *everything*. We had to move half of our furniture from our cozy little home to the country or buy enough to fit up a second place of temporary residence. If I had not been an out and out idiot, I would have seen that I was on the wrong road, but I was determined to enjoy that farm one summer at least. The cook and the house girl said, they "didn't mind trying it out there a while" and I was assured by the tenants on the place that they knew my folks would be delighted with the place after they had been there a while. So, with the tacit consent of my wife, I commenced to ship enough furniture from our city home fifty miles over the railroad to take care of us, and then attended to storing enough staple groceries for three months, relying upon the tenant for other perishable stuff. Transportation to and from the station to my country home was engaged from the tenant also "at prevailing neighborhood rates" for the one-mile drive.

My program was, to land the family at this haven of rest, and let them have freedom and

perfect enjoyment for three months, while I became a commuter and rode fifty miles every morning to reach my office at nine o'clock, work until two-thirty and then trot down to the station and get back at four in the afternoon. About June 10th, I moved my forces out, sending the servants ahead on an earlier train to straighten up things ahead of the madam and children. I sent the main contingent on the next train and staid behind to lock up and find a caretaker for the nights, leaving on the last train out.

As I got in the conveyance to go over to the place, the driver gave me my first jolt of the season's summering by telling me that he had bad luck carrying my family over from the midday train:

"The wheel rolled off the carriage and your wife and baby rolled out as I went down the hill at the creek," he said.

"Anyone hurt?"

"Only a little scratched up about their faces," he replied very undisturbed, apparently.

"What did you do about it?" I asked.

"Oh, I drove by the orchard and gave the little gal two beautiful apples and she soon forgot all about her head. I knows how to quiet chillun."

I dreaded my arrival, knowing the possibilities ahead after that fall and the *quieting* effects of early June apples.

But, for the time being, fate was with me, for I found my wife and the "little gal" (with a handkerchief tied around her head) sitting under the shade on the fine grassy lawn and apparently not much worse for wear. The cook and the house girl or nurse had opened up the store of commissaries and were busy preparing for a sumptuous meal at supper time, while the other children roamed in a nearby field picking blackberries. After I had removed my coat and gotten the consoling effect of a splendid breeze, I ventured to ask my wife how she thought she was going to like it out there, and, woman-like, she asked me how long I thought we would be able to endure it? I saw at once that her mind had been most unfavorably impressed by her ride in that old barouche and that it was no time to agitate the subject of our future sojourn at the farm. This was my first evening enjoying that mythical pleasure, written so eloquently about as "fresh country air," and, while waiting for supper, I had time to think seriously: Here I was, fifty miles away from every convenience and comfort and absolutely dependent upon my own

tenant to supply me with much that I needed and carry me and my family back and forth at his own exorbitant "prevailing neighborhood prices." I was already getting converted before supper and, as darkness fell and we missed the city lights, things began to look gloomy. Everything around us was as still as death until a lonely whippoorwill alighted near the door and poured out his plaintive song.

"Whaz 'at?" sang out one of the youngsters, grabbing me by the leg.

My explanation, that it was a harmless bird, might have gone unchallenged but for the colored girl's superstition. She informed my listeners that "when them things hollers near a house, it is a sign of sure death soon."

To quiet their fears their mother took them all in and put them to bed. After a while, I retired, more to think than to sleep; for, just as I was lapsing into my first drowse, I was aroused by hearing a wild scream from the next room occupied by the nurse and the cook. They yelled out: "Doctor, the room is full of rats running everywhere, and if we lasts 'till morning we wants to go back to Richmond."

I knew I was whipped and that, the sooner I crawfished back to my hole, the better it would be for us all. I had spent quite a good little amount in my great effort to realize my expectations, but I had at last to meet the issue, and accordingly lighted a lamp to keep the rats out of the room and finally fell asleep only to awaken when my wife inquired if I expected to be able to dress and get breakfast in time for the train to take me to my office in town?

It is needless to add that I had not been much refreshed from my fitful slumber nor cheered by the prospects ahead of me, but I was certainly in a receptive mood for any advice offering me an escape from my present predicament—anything to save my face. Under the circumstances, the servants prepared us a fairly good breakfast for which I inwardly expressed the sentiments I had heard my grandfather use in saying his grace "Lord make us thankful for what we are about to receive." I gave up going to the city for the morning and went out in the big shady yard to smoke and think. While meditating there, I noticed an old man walking along a path leading to the house and evidently coming to see me. He came up the yard gate, bade me good morning and I invited him to a seat under the shade of the trees. I would have taken

him to be at least sixty and a typical, ignorant, poor farmer, from his garb. He wore an old straw hat, a common cotton shirt, a crinkled seersucker coat, no vest, a pair of cheap cotton pants and coarse brogan shoes so red and rusty that they looked actually fuzzy. I would have taken him to be a farm laborer looking for a job but for a certain ease of manner and the use of very pure English in his conversation. He said that he lived near my place and used the path through my farm as a near cut in walking to the post office, and asked my permission to pass through as formerly. I found him a very friendly and agreeable old gentleman, and told him of my venture and my plan to summer out there.

He listened to me very attentively and asked me:

"Doctor, when gangrene sets in and the line of demarkation is plain, what do you do?"

"Amputate at once."

"Well," said he, "I think it is time to amputate that fad of yours before your whole pocket book melts away."

To my surprise, he told me that, twenty-five years before, he was a successful physician in a large city and got the same idea in his head that the real life could only be lived in the free air that God gave the country people, so he bought the farm that he now lived on near my place. He stocked and equipped it and went to farming and bee keeping, doing what he knew nothing about until he had lost everything he started with. From a practicing physician, he became almost a laborer and never had the courage to brace up and try to get even a country practice. "Now I am old and poor and cannot get away," he said.

"You came out here looking for 'fresh air,' and the parties selling you this old homestead and encouraging you to come out here and drag your nice family out simply gave you 'hot air.' Pocket your losses and go home and profit by an old doctor's mistake."

That man was one of my best friends and saved me when I was sadly in need of a guardian.

C. A. BRYCE.

516 N. 10th St.,  
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## LIVE ASSETS FROM DEAD TIMBER

This is a story about dead timber of all sorts—the dead timber of an old frontier house, the dead hours of a country doctor's spare time (the time when he is not applying

the resources of his profession to the ills of the community about him), the dead accounts that were liquidated into constructive labor. While the result achieved is no doubt a humble one, the work, nevertheless, proved a most interesting episode and a narrative of it may prove helpful in solving the problems of many other colleagues similarly situated.

The difficulty that so frequently confronts a doctor when locating in a small town is, to find a suitable residence and office. The houses that are to be rented seldom have modern conveniences and are likely to be poorly built, and the rooms are not so arranged that he can accommodate himself with an office at his home. That is the situation I found here and, at a great deal of inconvenience to myself and my patients, I was obliged to pay high rent for an office in a business block while putting up with such resident quarters as I could find in the flimsy shacks that were available. The only solution to this sort of a situation is, to build; but, this involves the investment of a larger sum of money than one may consider advisable in a locality where his residence may turn out to be of only a temporary nature. Even if one feels disposed to make such an investment, the financial resources may not be at hand to accomplish it. This latter holds true particularly in this section of the country where the interest rates are high.

In my own case, the problem had proved so hopeless of solution, that I had about decided that the only way out was, to move to a place where better accommodations could be had. At this juncture, an opportunity presented itself, in fact, was almost forced upon me. An old residence became vacant and the owners were very eager to dispose of it. As it was a very old building, 40 years old, to be exact (the first house to be built in the town) and had no basement, no heating plant, and was thought to be poorly built, I had not given it any consideration. Through the insistence of a friend, however, I was prevailed upon to look it over, and I was most agreeably surprised.

Superficially, one would judge the building to be in a most dilapidated condition. As a matter of fact, the sills, floor, framework were perfectly preserved and made of much better and heavier stock than can be purchased today. The windows were full-size, the sashes tight, the doors fitted as good as new, the rooms were well proportioned, good ceiling heights, the roof was sound and had been recently shingled. The siding was in good condition, tight and without cracks, and well

painted. These may seem like tedious details, but they are points that cannot be overlooked in judging the value of an old building.

All that was required to make a comfortable residence and office was, to excavate a basement, raise the corner of the house that had settled, pour in the concrete, change a window opening to a doorway, replaster the walls of the first-story room, build a new stairway, install a furnace and plumbing. To get these changes made by a contractor, would involve a long period of delay and a cash expenditure that I could not afford. On the other hand, if the thing could be accomplished, my difficulties would be solved and I would also have acquired a valuable piece of property at a great bargain.

Aside from the cost of plumbing and furnace, you can perceive that the main cost item in making these changes would be the labor, as the only material required would be about 60 sacks of cement, 20 of plaster, bricks for the chimney, and the stairway.

#### Work in Exchange for Services

The fact that I was incurring these expenses would give me a good lever with which to pry loose some cash on my good accounts, and I trusted to luck and my credit that these would cover the cost of materials. The labor question I solved by directing and participating in the work myself.

Many will marvel at how a doctor engaged in a busy practice, not a burdensome practice perhaps, but one that demanded several odd hours of work every day and frequent night-calls, could spare the time for such an undertaking. I must confess that there were times when only the certain prospect of success kept me from regretting that I had gone into it. I allowed myself no time for recreation or for reading. I kept no office hours, I neglected all but absolutely necessary correspondence, everything that did not bear directly on the needs of my patients and my building operations was eliminated. In two weeks' time, I had the furnace installed and lighted. The third week, I moved in my furniture and, at the end of a month, we had most of the interior decorating and finishing done and were ready to begin living in the house.

Two conditions favored me. I began my work at a time when the farmers had nearly finished their fall work and the weather remained mild and clear until after Christmas. I selected those farmers to help me who had nothing whatever to pay me with but their time. These men were in financial straits, not through any laziness or lack of intelligence on

their part, but through an unfortunate combination of circumstances that have made themselves felt in the entire northwest for the past three years. They proved willing and efficient laborers. I found that there is only one way to handle labor and that is, not to ask your men to do anything you would not do yourself. We worked long hours, but I was always the last to leave. Many times, when we were doing the hardest work, such as excavating or pouring concrete, they knew that I had been up most of the night before on some trying case. Naturally, as hard-working farmers, they could not let a white-collar man show them up.

I was fortunate in getting my sand hauled by a farmer who lived near an excellent sand deposit and who was glad of the opportunity to liquidate his debt in this manner. Rock is plentiful in this vicinity; so, I had no difficulty in getting a good supply of it without any cash expenditure. My chimney was built by a farmer who had had experience in masonry, and he did also the plastering. A big part of the carpenter work, such as tearing down the plaster and relathing, I did myself. As the sheeting was of the old-style, unmatched variety, I took the lath off where the plaster was loose and interlined the sheeting with a thick insulating material known commercially as balsam-wool. It is worth while calling attention to this method of insulation, as a great many home-builders may not be familiar with it. To my mind, it is such an important essential in the construction of an outside wall, that I wouldn't any more think of leaving it out than to leave the walls unplastered. It is as valuable in keeping a building cool in hot weather as it is in keeping out the cold in winter.

There was not a single operation in this remodeling process that I did not take part in. I not only mixed plaster, but I carried it. I swung a pick, I drove a team and scraper, I laid the stairboards, I planned and directed everything. It may not be a perfect job. But, allowing for the fact that it is my first offense, I don't feel like making very many apologies for it. Exclusive of the plumbing, the cash outlay did not exceed \$200, including the price of a furnace, paint, paper, cement plaster, brick, hardware. This will seem unbelievable, but a factor that helped was the utilization of practically every scrap of the old material. If you listen to carpenters, they will usually advise you to buy new and, if you are not right on the job, a lot of material will be wasted or destroyed. Carpenters don't like to



work with that sort of material, and it does take a little more labor; but, against the high cost of new material, this latter is not important. To keep down the labor costs and keep the work moving, one must plan carefully so as to be sure that the one view does not interfere with the other and to see to it that everything is ready for the next job before one is completed. You must be present to decide a great many questions from one job to another, when working with inexperienced men, and even the experienced men need direction or the work will not be done according to your plans. Pieces of material, that you have laid aside for this place or that, will be overlooked and new will be substituted, work will have to be undone, etc.

All together I got as much fun out of it as I would have from a vacation. I proved that a medical practitioner is an educated man in the true sense of the word. That is, I proved his adaptability, his resourcefulness in a novel situation. And that, I think, is the true test of education. I have also demonstrated that, in hard times, there is a way of getting pay for your services aside from actual legal tender. I pass my experience along to my brothers in the profession and will be glad to advise anyone contemplating a similar enterprise.

There are, no doubt, many old residences of this kind, especially in the cities, which have been soundly constructed and can easily be modernized at one-third the cost of a new building. The actual deterioration is oftentimes only superficial and a little paint and putty covers a lot of imperfections. By doing the work bit by bit, in your own spare time, you save all the contractors' profit and a great deal of the labor expense. It may hurt the doctor's dignity a little, but few people lose respect for a man who is willing to buckle into a real piece of manual labor, and you will be earning considerable compensation for the lost dignity unless you value it at too great a price.

G. J. WARNSHUIS.

Forman, N. D.

### COFFEE IS VINDICATED

Coffee is a beverage which, properly prepared and rightly used, gives comfort and inspiration, augments mental and physical activity, and may be regarded as the servant rather than the destroyer of civilization.

It seems to be well established that ingestion of caffeine as it occurs in beverage coffee (that is, properly prepared coffee) does not have any harmful in-

fluence.

Caffeine is not habit forming in the sense that constantly increasing quantities are required in order to secure stimulation. It is not a "drug" or a narcotic poison.

These are three of the outstanding statements in the exhaustive report of Professor Samuel C. Prescott, head of the Department of Biology and Public Health of the Massachusetts Institute of Technology. The Institute has just completed, at a cost of \$40,000, a three-year investigation of coffee.

This study of coffee, Professor Prescott states, "has been carried out under my direction with the aim to clear up many disputed questions and traditions regarding its composition and physiological action, and the best methods of preparing beverage coffee from the roasted bean."

"Disputed questions and traditions" galore have been solved in the course of the long study and a number of persistent bogeys have been laid as well.

"It may be stated," the report reads in part, "that, after weighing the evidence, a dispassionate evaluation of the data so comprehensively surveyed has led to no conclusions that coffee is an injurious beverage for the great mass of human beings."

Quite the contrary are the following deductions taken from the report:

"The history of human experience, as well as the results of scientific experimentation, point to the fact that coffee is a beverage which, properly prepared and rightly used, gives comfort and inspiration, augments mental and physical activity, and may be regarded as the servant rather than the destroyer of civilization.

"Coffee has a remarkable stimulating and fatigue-relieving effect due to the action of caffeine which acts on the central nervous system.

"It promotes heart action mildly, increases the power to do muscular work, and increases the power of concentration of mental effort, and therefore is an aid to sustained brain work.

"The action of caffeine might be likened, for purposes of visualization, to lubrication of machine, although the analogy is not perfect.

"It is not followed, except in excessive quantity, by undesirable after-effects.

"It does not draw on the physical reserves of the body and in general may be looked upon with no objection as a mild stimulant.

"Unlike other stimulants, caffeine does not have a depressive after-effect. The activity-

of the organism is speeded up for a time, then returns to the normal level at which it was working before stimulation. In fact, many individuals find with advancing years that smaller quantities will suffice. It is not a 'drug' or a narcotic poison.

"The average cup of 'strong' coffee contains about  $1\frac{1}{2}$  or  $1\frac{3}{4}$  grains of caffeine. This is ample, in some individuals, to give a quicker heartbeat, hence increase the circulation and activate more pronounced mental processes. Other individuals may require two or four times as much to provide the same degree of stimulation.

"If individuals are especially sensitive to tea or coffee, its use, except in extremely limited amount, is not to be recommended. In this respect, it should be treated in exactly the same manner as are many kinds of food, meat, shellfish, eggs, milk or fruit which do not 'agree' with one person or another. These food idiosyncracies, as they are called, are now known to be not uncommon.

"It sometimes happens that coffee can be taken clear, but not with cream. In this case, the suggestion that the disturbance is due to inability to take care of the fat is obvious. The same difference is often noted in the use of cocoa and chocolate, the latter with its high fat content being more difficultly taken care of than the former."

The action of coffee on the animal body was extensively studied during the investigation, rabbits being used as the test animals. The report points out that the results of animal experimentation can be taken only as indication and not absolute.

"A rabbit is not a man", it is explained, "but the data obtained confirm in a general way the results so frequently expressed in the literature on caffeine, namely, that small repeated doses are without harmful effect on the general metabolism and, in view of our findings and those of others, it seems to be well established that ingestion of caffeine, as it occurs in beverage coffee, does not have any harmful influence."

The results of the rabbit tests are presented in an interesting way in the report which states:

"Like many components of foods, as, pure proteins or fats, the quantity introduced into the body may be so graded as to secure results which we may class as desirable, tolerable, objectionable or lethal, the last-named being the amount that interferes with the normal working of the body sufficiently to produce death.

"It was found that doses of caffeine, similarly graded, produced a similar train of effects. The amount of caffeine which is lethal to a rabbit depends upon the body weight of the animal. The lethal dose is determined for mature rabbits of normal size as 0.242 Grams per kilogram of body weight. It was found that there was some difference in result when pure caffeine was given in aqueous solution and when given in the form of strong coffee containing equivalent amounts of caffeine. In general, the animals had a higher tolerance for the caffeine in coffee than for pure caffeine in water.

"Assuming the same caffeine tolerance per kilo in the case of man, it would require an amount of caffeine equivalent to that contained in 150 to 200 cups of ordinary strong coffee taken at one sitting to be lethal to a man weighing 154 pounds. These figures cannot be regarded as absolute, as certain variations are found, some animals having markedly increased tolerance over the average for their body weight. The condition of the animal unquestionably plays a very important part in these matters, as may be expected.

"With doses corresponding to the quantity of caffeine normally used by a coffee drinker, no injurious or deprecatory effect was noted. The pure caffeine used in these experiments was prepared in the laboratory from the same kind of coffee, in order that no question of the kind of caffeine could arise.

"Speculation on the reasons for increased coffee tolerance with the coffee infusion over that when pure caffeine in water was employed, as well as certain other observations on the chemistry of caffeine, suggests that caffeine may exist in beverage coffee in a different form from that in which it occurs when ultimately extracted, purified and then dissolved in watery solution.

"It is conceivable that the caffeine in beverage coffee may exist, in part, in free solution and, in part, in physical or chemical combinations with other substances, thus delaying the rate of absorption. It is also possible that protective substances exist in coffee which lessen the effect of excess caffeine ingestion."

Most surprising, according to Professor Prescott, was the absence of any important information on the methods of preparing the beverage in the great mass of coffee literature studied. A digest of more than 700 articles, books and technical papers was made.

"Analytical chemists have examined coffee with reference to its general composition, the elements found and the compounds in which

they occur," he states. "Government and state analysts have examined it with reference to adulteration. Physiologists and pharmacologists have studied the action of coffee on the human or animal body, its stimulating effect on muscular action, on the heart, kidneys and central nervous system. Medical men have written at length, as to its effects on the general health of the consumer. In addition, there is a considerable amount of general literature of descriptive character, but of little service in the task of getting at the truth regarding this important food adjunct.

"Critical examination of all this literature shows many conflicting opinions, much work open to attack from the standpoint of exact method or because of conclusions hastily drawn from insufficient data, isolated observations, or hearsay evidence.

"On the other hand, the most careful detailed analyses and extended studies have demonstrated that coffee is a natural product of exceedingly complex character, varying greatly in its properties and action according to source, ripeness, method of curing and roasting, and especially according to the methods of preparation of the extract used as a beverage or for physiological tests.

"There is an immense amount of conjecture and suggestion, but relatively little proved fact, based on exact data, carefully tested methods and standardized conditions. Very few authors have studied the subject from the standpoint which now seems most important—that of the method of preparing the beverage itself."

This survey of literature included most of the reports published in English, French, German, Spanish and Italian, and the brief extracts from these articles exceeded a thousand typewritten pages. They form a valuable historical contribution to the subject, Professor Prescott points out, even if they do not yield the storehouse of proved facts that had been anticipated when the investigation was undertaken. Much was learned from them, however, as is indicated in a paragraph of the report which reads:

"The time and the space do not permit a recital of the great masterpieces of literature, music and art which have been produced under its beneficent exhilaration, or more than a suggestion as to the place caffeine-containing beverages take in the dietary of the progressive nations of the earth."

No man is rich whose expenditure exceeds his means; and no one is poor whose incomings exceed his outgoings.—Haliburton.

## DREAMING OF DYING

In the current *Atlantic Monthly* (Feb. 1924), a writer presents a dream of being dead and states that such dreams are rare. This article recalls a dream that the writer experienced some thirty years ago, and that is still vivid.

I was on a transcontinental train with several friends, en route to fulfill a lecture engagement at a small town in western Kansas. We were due at this town about one o'clock in the morning, and we were occupying the so-called "reclining" chairs in a day coach. Trying to get some rest, I lowered the chair as far as possible and went to sleep.

I dreamed that my heart suddenly stopped beating and that I was dying. I realized that I was suffering no pain, no particular discomfort. I speculated upon the fact that my death was virtually painless, contrary to the general belief, and was conscious of my surroundings. I knew that I was on the train and tried to put my hand out to a friend who occupied an adjoining chair to let him know I was dying. But I was unable to move, nor could I speak. My chief concern seemed to be for my friends and their shock at finding me dead. I thought, how alarmed they would be and that they would try and lower the chair in order to straighten me out more, but I knew they could not do it, because I was certain I had lowered the chair as far as possible myself. I could see myself or my body "slumped down" in the chair, but I have no consciousness as to how my "spirit" appeared.

I awoke with a decided sense of relief that it was only a dream.

N. S. M.

—, III.

## ECHINACEA ANGUSTIFOLIA

I ask your attention to a drug which, while rather unfavorably introduced, a few years ago, by a somewhat quackish individual, has proved to be one of the most important additions to our armamentarium. I refer to *Echinacea Angustifolia* which has become known as one of the most powerful remedies against animal poisons introduced into the system by bites or stings of venomous reptiles or insects and against all pyogenic diseases.

During the past fifteen years, I have used *Echinacea* in all cases where I had formerly employed *Phytolacca* or *Hydrastis Canadensis*, and always with good results, but in Texas I have had a more extended experience and a

wider range of cases than ever before.

My first case was that of a dog of the bull terrier class, weight about 50 pounds, that was bitten on the neck by a rattle snake, at 8 o'clock in the evening. Treatment: I dissolved several tablets of Echinacoid in water, making a strong solution. This I applied to the wound and, internally, I administered  $\frac{1}{2}$ -grain tablets of Echinacoid every hour.

The following morning, the dog, which is very friendly to me, came to my house and scratched at my door until I opened it. She then lay down upon the gallery and remained quiet until I was ready to give her attention. I will say here that this was the first time that the dog had paid me a visit voluntarily. I found the neck much swollen and the animal inclined to mope, as, after I had attended to her, she remained perfectly quiet between doses of medicine.

I continued the Echinacoid every hour, commencing about 7 a. m. and, toward noon, the animal began to show some spirit, the swelling had subsided and, about 6 in the evening, she ate some food and later showed her gratitude by playing about the yard. There appeared no further ill effects of the bite which was now healing nicely. Thus, in twenty-four hours, the effects of the poison were entirely overcome.

Case 2.—The patient, a lady about 30 years of age, was stung upon the back of the right hand by a scorpion. When seen, the hand was much swollen and she complained of intense pain in the hand and up the arm. She had a temperature of  $102^{\circ}$  F.

Treatment: I applied to the wound a strong solution of the Echinacoid and gave, internally,  $\frac{1}{2}$  grain of the Echinacoid every hour for six hours, after which, all symptoms having disappeared, treatment was discontinued. On the following day, the patient declared herself "perfectly well."

Cases 3 and 4.—Both of these patients were young men, each about twenty-five years of age, with a clean personal history. They came to me for treatment for a large number of boils on the hands and on the body. The history of the cases was identical. They had been engaged in shucking corn during the week before visiting me and the boils had appeared after three days' work. The only diagnosis that I considered feasible was, infection from corn smut, sometimes called corn ergot.

Treatment: First, I ordered a cleanout with Calomel and a Saline, then I gave them internally  $\frac{1}{2}$  grain of Echinacoid every two hours which treatment was continued during one

week. At the end of this time, both reported themselves "cured" and, up to the present time, there has been no recurrence.

Case 5.—A man, about 45 years of age, came to me with an ugly sore upon the ring finger of the right hand and with a commencing trouble of the same kind on the ring finger of the left hand.

The patient stated that the trouble commenced with pain, redness and swelling, about two weeks before his visit to me, and that the "boil" had resisted ordinary home treatment. He had opened the "boil" as he called it; the pus was thin and bloody. I diagnosed periostitis and gave him Echinacoid,  $\frac{1}{2}$  grain, every two hours during one week. At the end of that time, he reported to me that he "guessed I am well" as "the thing appears to be healed." It is still healed, two months later.

In closing, let me strongly recommend this drug for use in all pyogenic conditions. I am positive that you will obtain the same satisfactory results that I have observed in the cases reported.

WM. T. THACKERAY.

Fowlerton, Texas.

### TACHYCARDIA

Mrs. W. N. at 50 years of age, consulted me in August, 1923, with a history of cardiac trouble affecting her mother and two brothers as well as herself. She could not give a lucid account of the family trouble, but her own trouble was noticeable. There was a very rapid and fluttering pulse, pain over the heart, numbness in the arms, and the patient showed great alarm. The pulse was so rapid as to be uncountable and the symptoms were so pressing that a full dose of digitalin was administered at once, with some relief as to the pain and anxiety.

After the paroxysm had passed, I made a very careful examination of the heart, but found nothing abnormal. The fact that a brother was ill at his home, some distance north of our town, caused the patient to be afraid, both, on her own and her brother's account, and I advised that she pay a visit to her old home. The visit was made, but, after her return, she was again bothered by her "heart fluttering" as she called it and the digitalin did not now have the same effect as in the former use of it. As a consequence, I changed my treatment to cactoid,  $\frac{1}{64}$  gr., every fifteen minutes until the pulse became quiet, which condition obtained after the second dose, and the cactoid was continued every



Administration Building, The Palmer Tuberculosis Sanatoria

two hours for two weeks with no return of the trouble; nor has there been up to the present writing, January 31st, 1924.

W. T. THACKERAY.

Fowlerton, Texas.

### THE PALMER TUBERCULOSIS SANATORIA

The Palmer Tuberculosis Sanatoria at Springfield, Illinois, announce the completion of a series of new institutional buildings which are attracting the attention of institutional men and of tuberculosis workers throughout the nation. The new buildings are a part of a comprehensive building plan which is to extend through the next few years, and they mark many departures from the conventional sanatorium for the treatment of tuberculosis.

This new group consists of an administration building, of Spanish style of architecture, affording all of the administrative quarters common to such buildings, but designed after the style of a high-class country club, eliminating every feature suggestive of the hospital.

Connected with the administration building by a heated corridor, is the most complete laboratory and surgical section to be found in any private American sanatorium. This section contains a large operating room with sterilizing and instrument rooms, a pus dressing room, a section for the employment of heliotherapy and large x-ray and general laboratories.

Immediately adjoining this technical section

is a general hospital of about forty beds designed especially for surgical work and for those necessary features of treatment for which provision is not made in other institutions. Facilities are provided for surgery of the chest, either tuberculous or non-tuberculous; for general surgery for tuberculous persons and obstetrics among tuberculous women.

Another unusual feature of this institution is a thoroughly organized school for the instruction of the patient in the very important after-care at home and including a well organized division of occupational therapy.

### SUMMER SCHOOLS IN PUBLIC HEALTH WORK

The United States Public Health Service announces that, in response to an extensive demand for summer school work in public health, it has arranged with Columbia University, the University of California, the University of Michigan and the University of Iowa to conduct public health summer schools this year.

The faculties of these various summer schools will include many such leading specialists of the United States as Michael M. Davis (dispensary management), Robert H. Gault (criminal psychiatry), Emery Hayhurst (industrial hygiene), William J. Mayo (non-communicable diseases), E. V. McCollum and H. C. Sherman (nutrition), William H. Park (laboratory methods), Earl B. Phelps and George C. Whipple (public health engineer-



ing), M. J. Rosenau and Victor C. Vaughan (epidemiology), Thomas W. Salmon (psychotherapy), John H. Stokes (syphilis), Philip Van Ingen (child hygiene), C.-E. A. Winslow (public health administration), and Francis Carter Wood (cancer).

The Public Health Service has already received communications from several thousand physicians and sanitarians who hope to attend these summer schools. The widespread interest manifested thus early indicates that a large number will take advantage of this opportunity.

H. S. CUMMING,  
Surgeon General.

Further information may be obtained by writing to the Surgeon General, U. S. Public Health Service, Washington, D. C.

### PHARMACOPŒIA STANDARDS FOR WHISKY AND BRANDY

Announcement has just been made by E. Fullerton Cook, Chairman of the Revision Committee of the United States Pharmacopœia that standards for whisky and brandy as medicines will be included in the new Pharmacopœia now being revised. This is in response to a demand by the physicians of the country.

Under the national prohibition laws, whisky and brandy are classed as medicines and as such are legally prescribed in many cases of serious illness, but at the present time no legal standards exist for their purity.

All physicians of the General Revision Committee, acting as a subcommittee were appointed to study the situation and take the necessary action. This subcommittee has issued the following statement:

"In view of the fact that a large number of physicians in the United States believe alcohol to be a valuable therapeutic agent, and in view of the widespread adulteration of the alcoholic liquors at present available, the members of this Referee Committee feel that, for the protection of the public, there should be an official standard for medicinal spirits."

By including standards for whisky and brandy as medicines, in the Pharmacopœia, which is the legal standard for drugs and medicines under the Food and Drugs Act, the machinery of the U. S. Department of Agriculture and of the Boards of Health and Boards of Pharmacy throughout the country is enlisted in protecting the sick against adulterated and poisonous products.

### ENFORCEMENT OF VOLSTEAD AND HARRISON LAWS

The following resolution was adopted unanimously and has been signed by the 42 members of the Faculty and Instructional Corps of the Philadelphia College of Pharmacy and Science at its monthly meeting on January 21st.

At a Student Forum held recently by representatives of a large number of Eastern Universities and Colleges, complaint was made by the students themselves that they did not know where their Faculties or governing officers stood on the matter of Law Enforcement.

The Faculty of the Philadelphia College of Pharmacy and Science have long been teaching and advocating law enforcement to the classes but had never previously taken up the matter for concerted action.

The students have been officially made acquainted with the action of the Faculty and have been notified that no student will be recommended for promotion or for graduation who is found to be a law violator in connection with antinarcotic or prohibition regulations.

"RESOLVED, That as good citizens, we, the members of the Faculty of the Philadelphia College of Pharmacy and Science, take a stand for law observance and for law enforcement, and that we pledge observance, specifically, of the prohibition and narcotic laws, in connection with which pharmacists and chemists have a peculiar responsibility as custodians of a great public trust."

[It were well if all physicians, individually, would pass the same resolution—and abide by it.—Ed.]

### A QUARANTINE CONFERENCE

Dr. W. C. Rucker, Surgeon U. S. Public Health Service, who is chief Quarantine Officer in the Panama Canal Zone, informs us that Dr. Belisario Porras, the President of the Republic of Panama, has called a conference to meet in Panama, R. P., on February 25 to 29, for the purpose of considering the international standardization of maritime quarantine on the west coast of South America and the prevention of international spread of communicable disease in that littoral.

In the formal discussions, questions will be taken up bearing upon maritime quarantine regulations; the methods, periodicity and certification of ship fumigation; uniform quaran-

tine declarations and uniform bills of health.

Practical demonstrations will be provided of public health and hospital methods. Clinics will be held at Santo Tomas, Ancon, Corozal and Palo Seoo hospitals. There will also be demonstrations in municipal hygiene, garbage collection and destruction, public markets and refrigerating plants at Panama and Colon, R. P.

The Medical Association of the Isthmian Canal Zone will hold a special meeting at the Santo Tomas Hospital for the Conference. There will be a visit to the site of the Gorgas Memorial Institute, and it is believed that this will constitute one of the outstanding features of this international meeting.

The Secretary-General of the Conference is Surgeon William Colby Rucker, U. S. P. H. S., Chief Quarantine Officer of the Panama Canal. Physicians, surgeons and public health workers visiting the Isthmus of Panama at the time of the Conference will be welcomed.

#### U. S. CIVIL SERVICE COMMISSION

The United States Civil Service Commission announces open competitive examinations for the following: Medical Officer, Junior Grade, Salaries up to \$2,000. Medical Officer, Grade A, Salaries up to \$3,250. Medical Officer, Grade B, Salaries up to \$4,250.

Vacancies in the positions of physicians in the Indian Service, Surgeon in the Coast and Geodetic Survey, physician in the Panama Canal Service for duty outside of hospitals, and assistant and associate medical officers for field work and at field stations in the Public Health Service, at the salaries indicated, and in positions requiring similar qualifications, at these or higher or lower salaries, will be filled from these examinations, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

Applications.—Applicants should at once apply for Forms 2415 and 2398, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C.; the Secretary of the United States Civil Service Board, Customhouse, Boston, Mass., New York, N. Y., New Orleans, La., Honolulu, Hawaii; Post Office, Philadelphia, Pa., Atlanta, Ga., Cincinnati, Ohio, Chicago, Ill., St. Paul, Minn., Seattle, Wash., San Francisco, Calif., Denver, Col.; Old Customhouse, St. Louis, Mo.; Administration Building, Balboa Heights, Canal Zone; or to the Chairman of the Porto Rican Civil Service Com-

mission, San Juan, P. R.

Applications should be properly executed, *including the medical certificate*, and must be filed with the Civil Service Commission, Washington, D. C., without delay.

The exact title of the examination, as given at the head of this announcement, should be stated in the application form.

#### UNITED STATES CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces the following open competitive examination:

##### Medical Interne (Psychiatric)

Applications will be rated as received until June 30. The examination is to fill vacancies in Saint Elizabeth's Hospital, Washington, D. C., at an entrance salary of \$1,200 a year and maintenance. Appointees may also be allowed the increase of \$20 a month granted by Congress.

Applicants must have graduated from a recognized medical college, or be senior students in such an institution and furnish proof of actual graduation within eight months from the date of making oath to the application. Applicants must not have been graduated prior to the year 1920 unless they have been continuously engaged in hospital, laboratory, or research work along the lines of neurology or psychiatry since graduation.

Competitors will not be required to report for examination at any place, but will be rated on their general education, technical training and experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the post office or customhouse in any city.

#### HOW THE NIGHT FELL

'Twas an even, in bleak midwinter and the  
snow was falling slowly,  
Falling on the proud and haughty, falling on  
the poor and lowly,  
Cov'ring everything around us with a mantle  
thick and deep,  
Like a shroud of Nature's weaving for the  
Earth's long wintry sleep.

And the day is slowly dying, waning with its  
joy and gladness,  
Closing with its pain and pleasure, ending with

its grief and sadness.  
 Hushed is now the city's bustle, stilled its busy  
 strife for gain,  
 And there comes a holy stillness on each vil-  
 lage, field and plain.  
 Only broken by the music of the twittering of  
 the birds,  
 By the call of far-off shepherds, or the low of  
 distant herds,  
 And these sounds grow faint and fainter, for  
 each bird has found its nest,  
 And the herds and flocks safe sheltered, all  
 have found repose and rest.

Now the stillness is unbroken, now the silence  
 is profound,  
 Naught is moving, save the snow-flakes, gently  
 sifting o'er the ground;  
 While the dusk is slowly deep'ning, darkness  
 swallowing up the light,  
 'Midst the gloom and falling snow-flakes,  
 Lo! the Day has changed to Night.

HOMER CLARK BENNETT.

Lima, Ohio.

### I WISH TO GUBS THE KIDS WAS BACK!\*

'Taint no use talkin' bout it, Maw,  
 We're both as lonesome as Sam Hill:  
 Yer know, George kinder leaned ter Paw,  
 And you jist sorter petted Bill.  
 When they wuz here, we quarr'led and  
 fussed—  
 We could not well of each keep track;  
 But now, they're gone, and I'll be cussed—  
 I wished to gubs the kids wuz back!

We hear the old clock tickin' on  
 Things are so solumn like and still;  
 We miss 'em now that they are gone,  
 Say Maw—I have nerglected Bill—  
 And you have slighted George—you know  
 You fussed with him in helpin' pack—  
 It sort uv strikes me like a blow;  
 I wished ter gubs the kids wuz back!

I know, they kinder raised old Ned,  
 And kept us stewin' like ther Dutch,  
 They paid no 'tention what we said,  
 P'haps after all we talked too much.  
 I tell yer what, I'm sick at heart,  
 We're out uv the old beatin' track;  
 It sort uv makes the tears ter start;  
 I wished ter gubs the kids wuz back!

Maw sets around and looks so glum,  
 And views their picture on the stand;  
 If they wuz here, they'd make things hum  
 And play their music like the band.  
 I simply steal around the room  
 And swear it is a lonesome shack—  
 We feel like twenty tons of gloom  
 And wished ter gubs the kids wuz back!

When they git back, I'll tell yer, Maw,  
 We'll let them give their college yell,  
 Play ragtime, too, and, maybe, Paw  
 Will jine them for a little spell.  
 We got two very clever boys,  
 I wish'd they'se here ter have a snack—  
 I'm longin' for their fun and noise,  
 And wished ter gubs the kids wuz back!

E. A. NASH.

Peterson, Iowa.

\*This poem was suggested by a recent cartoon of  
 Ding's entitled: "Dick and George started to col-  
 lege yesterday".

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[Concluded from page 152]  
 pounded that remarkable bit of erudition?  
 We should like to know. While reading the  
 paragraph, we were, subconsciously, much ex-  
 exercised in our minds in behalf of those who  
 are bald (We ourselves are *almost* bald: there  
 is ONE hair left on the crown of our head—  
 two less than Bismark had), but the last  
 phrase is reassuring. Instead of baldness  
 being due to the entire absence of gray matter,  
 it is caused by an "over-excess". Thanks. We  
 feel better. There is at least some little con-  
 solation for the nakedness of our scalp.

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[Concluded from page 189]  
 It was advance payment for six full pages of  
 the advertisement of a well-known patent  
 medicine. The action was characteristic of the  
 man: When a principle was involved he never  
 hesitated for a moment. He had decided that  
 patent medicines must go, and the fact that  
 he was in sore need of money at the time had  
 nothing to do with it.

Those who have read "The Americanization  
 of Edward Bok" will require little urging to  
 read this biography of Mr. Curtis. The two  
 books are equally delightful, and equally val-  
 uable to young men; but there is a difference.  
 An author would naturally feel more freedom  
 in writing the life story of another than in  
 telling his own. But both books are replete  
 with that charm which holds the reader's in-  
 terest and makes it difficult to lay the book  
 down after having begun it.

2920 Warren Ave.

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[Concluded from page 185]  
 for a supposed spinal-cord tumor (without  
 finding anything) but with no benefit result-  
 ing.

As soon as my wound had healed, I left  
 the hospital with as much pain as the first  
 day I entered (3 months) managing to get  
 to Santa Barbara Cottage Hospital in South-  
 ern California. Consulted Dr. Ellis Jones (an  
 orthopedic surgeon). After a careful examina-

tion, he came to the conclusion that the sciatic pain was due to compression of the lumbosacral cord, due to impingement of the transverse process of the fifth lumbar vertebra. Radiographs showed all transverse processes rather low down and in view of my symptoms he suggested a forward position which might easily mechanically cause definite pressure. I had marked limitation in straightening the leg with severe pain.

At the Good Samaritan Hospital (Los Angeles) Dr. Jones tried mechanically to increase the space between my transverse processes and the ilia; in other words, Dr. Jones said, he flattened my back and overcame the spasms of the hamstring muscles. He placed a plaster spica from my chest over the pelvis and down the left leg for three weeks and followed with a steel back brace, which I wore for three months. The sciatic pain lessened in intensity but did not entirely leave me.

After four weeks, I went on to Austin, Texas, to see my parents. While there, my legs and arms became edematous with muscular pains. I went to Marlin, Texas, and took Hot Artesian Water Baths at Torbitt's Sanitarium for twelve days. While the baths relieved the edema and rheumatic symptoms, they depressed and weakened me.

I left for California and arrived home April 27th, 1922, only to remain two weeks, when I placed myself under Dr. Jas. Eaves' care at St. Mary's Hospital, San Francisco. A Dr. Whitney had charge of my case and spent two weeks searching for amebic infection—but without finding anything except a large number of trichomonas.

His physical examinations showed that my heart, lungs, kidneys and other organs are normal. His diagnosis was: 1.—Chronic colitis. 2.—Osteoarthritis of the spine with consequent trouble in the sacroiliac joints, and sciatica. 3.—Debility and neurasthenia. Advised me to return home, rest, etc.

While in the city, I went to St. Francis Hospital and had a friend of mine, Dr. M. P. Burnham, head of Röntgen department, give me a most thorough examination and his report follows:

"Opaque meal of 500 Cc. barium-buttermilk mixture. Stomach filled normally, steerhorn type. Moderate spasm of antrum; otherwise, pyloric antrum normal. Duodenal bulb showed marked indentation on lateral aspect; symmetrical walls. The six-hour examination showed stomach empty. Twenty-four hour observation showed normal colon findings. Gall

bladder plates negative.

"Röntgen conclusions: Negative. Röntgen examinations of the spine showed slight hypertrophic lipping in lower lumbar section, otherwise negative." Right antrum showed cloudiness and old inflammation.

I was called home in June and tried to do light work, but gained very little in health and now have to have an assistant to carry on my practice.

During x-ray examinations for stone in bladder, in taking the picture, the end of x-ray cone was pressed down very firmly over my right kidney, since then I have to urinate very frequently and find difficulty in holding my urine.

My great trouble is fatigue on exertion, mental depression, insomnia, sleep restlessly for 4 or 5 hours, then wake up suddenly as if I had received a sledge-hammer blow over the right sacroiliac synchondrosis, with a desire to urinate and evacuation of very offensive gas. From that time on, I sleep brokenly and have to go to the toilet 3 or 4 times to urinate before my usual time of getting up at 7:30 a. m. Sometimes, I can hardly retain the urine before getting into the bath room adjoining my bedroom. Also, I expel a great deal of offensive gas from the bowels, with a great deal of rumbling of gases and liquids in the bowels, as if I were going to have an evacuation of the bowels. A desire to stool occurs several times a day, often without results—only passing of the gas. Feces are not liquid, but stringy, broken parts of feces.

Have soreness over appendix region and a great deal of lumbar pains after sleeping on my back for several hours—or sitting up in a chair.

When I first awake in the morning, I feel all in and feel as if I could not possibly get up. This lasts for about fifteen minutes after I am up. Then this tired, exhausted feeling passes and I feel well. But, if I am called out for a country call, I come back all in, although I may have a driver for my car.

Since my laminectomy, I suffer from impotence and absence of libido. I have always been more or less inclined to premature ejaculation, due to a slight seminal vesiculitis. Never had gonorrhea or syphilis. No typhoid fever. The urinalysis is negative. Blood examinations are negative.

I notice, about three hours after eating, pain over the cecum and lower colon, accompanied by a sickening depressed feeling; also an empty feeling in stomach and bowels during the early morning hours.

Could it be possibly that adhesions of the colon, cecum and bladder cause all my trouble, as well as auto-infection? I never felt that the operation for intestinal adhesions, at Letterman General Hospital (1917) was extensive enough to remove adhesions resulting from the appendectomy in 1905. So, now, when the bladder fills at night and presses up against the cecum, the iliocecal valve is closed and this causes a regurgitation of gas, which proves a sensation of being kicked in the back and wakes me up.

Editor's Note: The doctor is a middle-aged man of medium tall and rather stout stature, who, during his service under my observation, from about the end of 1918 to June 25, 1919, attended to his duties without in the least betraying that he was not in the best of health.

#### A POSSIBLE UNSUSPECTED USE FOR YEAST

[In *American Medicine* for November 1923, Dr. Edward Willard Watson, of Philadelphia, presents a brief account of some observations in diabetics in which the taking of yeast caused the sugar in the urine to disappear. The observation is interesting, although we can not, at the moment, offer a satisfactory explanation. Doctor Watson's report is brief and we reproduce it in the following with suitable acknowledgment to *American Medicine*.—Ed.]

Some time in the spring, a patient came to me, a woman of fifty years of age, and a relation of a family I had known for many years; her mother, she said, had suffered for many years from diabetes and she had taken care of her and cared especially for her diet. Her mother died and, now, she had been told, by a doctor whom she had consulted, that she was a diabetic herself. She brought a specimen of urine which I examined and found, in spite of the experience I have had in practice and as a life insurance examiner for many years, the highest percentage of sugar. The reaction to Fehling's test was immediate, and startlingly so. She was, she told me, on a rigid diet, which she thoroughly understood, as I found on questioning her. I had her return at short intervals, but each specimen she brought gave the same reaction,

though her diet contained but scant starch or sugar. She complained of great weakness and asked me if she might take yeast cakes which some friend had recommended as a tonic, and I suggested that she take two a day.

Two weeks later, she returned with a specimen, and said that the yeast seemed to make her feel brighter, and that she had less disturbance at night. On examining the urine she brought, to my great surprise, I found it to be quite free from sugar. A second and third specimen of short intervals gave the same results, so I advised her, as I was going away for a summer vacation, to keep up the yeast, and, if she seemed to relapse, recommended her to another man for other examination, or if she wished to write me. On my return, I found that she had improved in appearance, in the opinion of her friends, but had removed to a very distant part of the city, and I am still waiting for another specimen.

Having had on my list, for some four or five years, a case of diabetes, in a single woman of forty, with specimens that, on a special diet, though not very strictly nor carefully carried out, I fear, still showed much sugar, I put her on yeast cake, and in her case, all sugar disappeared.

As this patient went for the summer to the same place as I myself, I could keep her under steady observation. Her health seemed good, and she was allowed a liberal diet. On her return to the city, the urine still showed no trace, the yeast being steadily kept up.

My field has been limited to these two cases, but they have been of great interest. It seems as though the much vaunted "insulin" possibly might not be the only ferment of use in this disease. I thought it would be well to put on record this small experience with yeast, as others may be led to try it, and thus prove it of value in diabetes. The use of yeast has increased very much of late as a routine addition to the diet, and many have told me that, as a result of its use, they have gained in strength and appearance, though never considering themselves very sick. In view of the recent discovery of "insulin," a ferment also, and one somewhat difficult to obtain as well as to employ, I thought these two cases worth reporting if only for their suggestive value.



# What Others are Doing

## THE MELLON TAX BILL

The Mellon Tax Reduction Bill, framed by experts of the Treasury Department and made public this week, does not contain any modification of the existing federal tax laws specially relating to the medical profession. There are three provisions in the existing law which are regarded as an unjust tax on physicians.

1.—The unnecessary tax of \$3.00 a year on physicians who prescribe or administer narcotics.

2.—The denial of the right to deduct traveling expenses while physicians are away from home in the pursuit of their profession.

3.—The denial of the right to deduct the expenses of postgraduate study.

As a result of the failure of Secretary Mellon and his experts in the Treasury Department to incorporate modifications of these provisions in the Mellon bill, the medical profession will be compelled to appeal to Congress with respect to the above tax provisions which discriminate against the profession. Denial of the right to deduct traveling expenses and the expenses of postgraduate study is not specifically contained in the existing federal tax laws, but these taxes are the result of interpretations of the law by the Commissioner of Internal Revenue; although other tax payers, such as traveling men, are allowed to deduct traveling and hotel charges. It is true that manufacturers and merchants are allowed to deduct from their incomes expenses incurred in visiting cities other than their respective places of business to replenish and enlarge their stock of merchandise and to learn better methods of manufacturing and merchandising. It is argued that the learning and skill of the physician and his professional connections should be held to be as much a part of his professional equipment as the establishment, equipment and good will of the manufacturers and merchants is. The Harrison Narcotic Act of 1914 imposed a tax of a dollar a year on physicians prescribing or dispensing narcotics. When the Revenue Act of 1918 was framed, new sources of revenue were sought to help pay war-time expenses; and this tax was in-

creased to \$3.00 a year. The increase was primarily a war-time tax. The taxes collected are largely in excess of the amount required to enforce the law. The government received, in the fiscal year 1923, \$1,269,039.90 from the Harrison Narcotic Law, and the cost of enforcing it was \$858,728.77. To the extent that the tax is in excess of the government's expenses in its enforcement, the tax is a discrimination against the medical profession. There is no more reason for such tax on the physician than on the lawyer, the architect or any other profession.—*Jour. A. M. A.*, Jan. 5, 1924.

## MEDICINAL TREATMENT OF HIGH BLOOD PRESSURE

While it is quite correct that high blood pressure should not be treated as such without determining and influencing the underlying cause that had produced this symptom, it is no less true that symptomatic treatment of any disease phenomena has its place in therapeutics, in so far as it is important that alarming or distressful symptoms should be controlled promptly, while the more protracted and etiological treatment is inaugurated and carried out.

On the basis of this reasoning, we are much interested in some remarks made by Dr. Charles Greene Cumston, of Geneva, Switzerland, who gives the following advice (*N. Y. Med. Jour. and Med. Rec.*, May 2, 1923, p. 574):

"We will not consider the methods in use for lowering the blood pressure in general and shall only consider those medicaments which have proved themselves to be vasodilators, viz., the nitrites, benzyl benzoate, and sodium citrate. Among the nitrites, trinitrin and sodium nitrite are most commonly employed, but it must not be forgotten that they may depress the heart. A keratin-coated pill containing sodium nitrate (5 centigrams) and extract of mistletoe (7 centigrams) is useful, three to be taken daily. The nitrite is liberated in the intestine.

"Benzyl benzoate is given in doses of 20 drops, in a five-percent alcoholic solution, nine times in twenty-four hours, but larger doses may be exhibited without any untoward effects. The hypotensive action of this drug is mani-

fest. When injected into dogs, a marked vasodilatation occurs in the domain of the splanchnic nerves, resulting in a lowering of the blood pressure. The drug may be given hypodermically in an oily solution containing from 2 to 4 drops in each cubic centimeter of olive oil.

"Sodium citrate is prescribed in potion in doses of from 3 to 10 Grams in twenty-four hours. It must be exhibited for some time, and is more particularly indicated in plethoric subjects with hyperviscosity of the blood.

"Tincture of garlic requires great precision in its use, because it should be prepared by a maceration of equal parts of hulled clove of garlic and water. The daily dose is from 20 to 30 drops taken at one dose and the drug should not be given for more than two to four days at a time, with an interval of five days. Prolonged administration results in arterial hypertension on account of the tonic effect on the heart.

"But the best treatment of arterial hypertension is that which deals with the etiological factor. One of the most frequent causes is arterial atheroma and, as we now know that arteriosclerosis and atheroma are unquestionably the result of cholesterin deposits in the bloodvessels, it follows that the only way to deal with this condition is to dissolve these deposits. This can be done with the alkaline phosphates or, better still, with organic phosphatides, which dissolve the cholesterin. Their administration during two or three months generally lowers the blood pressure and, when this is once obtained, the result is permanent, a result unattainable with the other hypotensive drugs, their action in this respect being only ephemeral."

#### INJURIES OF THE KIDNEYS FROM BISMUTH

Some years ago, when Emil Beck had proposed his bismuth paste for the treatment of empyema, several instances of bismuth poisoning were recorded in most of which evidences of renal irritation had been observed.

When, quite recently, bismuth combinations, such as tartrobismuth of sodium and tartro bismuth of potassium, were offered for the treatment of syphilis, the question of intoxication very naturally came to the fore once more and received considerable attention from many investigators.

F. Rathery and Ch.-Jacques Richard report in *Paris Médical* for August 4, 1923, upon a series of clinical and experimental studies which led to rather reassuring conclusions insofar as possible injury to the kidneys is concerned. In none of their experiment animals, could they discover lesions that might be referred to the bismuth injections. The doses of bismuth had been quite large and the animals were killed at varying intervals

of time which were sufficient to enable the bismuth to exert any toxic effect on the kidneys to which it might give rise.

In humans, even where the patients had shown evidences of defective renal functioning before treatment, the authors never observed serious effects from the bismuth. It is true that they avoided subjecting such patients to treatment whose kidneys were markedly injured.

The authors conclude that, once a defective kidney function contraindicates the employment of bismuth preparations *a priori*, this treatment, which always should be supervised carefully, may injure the kidneys in some cases and it may also improve it in others. The authors point out that the same is true for mercurials and arsenical preparations and that no general rule can be established. Any injury to the kidneys following bismuth will always be observed in special cases.

#### THE USE OF SCOPOLAMINE IN PSYCHIATRY

Dr. R. E. House, of Texas, who recently suggested scopolamine anesthesia to the medical and legal professions in the field of criminology, holds that under the influence of this drug a person is indifferent to his immediate surroundings and unable to exert his will-power. When the cerebrum is depressed and the will suspended during an unconscious state produced by scopolamine, the memory content is accessible and can be elicited through the sense of hearing. The subject, however, is unable to recall questions from one moment to the next and, because of this failure of memory, he has no subsequent recollection of his experiences while under the influence of the drug.

In *The Medical Herald* for January, Dr. P. R. Vessie, superintendent of Gowanda State Hospital, Gowanda, N. Y., relates several instances in which scopolamine anesthesia was induced in patients of the City Hospital and where information was obtained during the scopolamine anesthesia that had not been procured while the patients were conscious.

For instance, a man, thirty-nine, who, for three months, had been lying quietly in bed in a continuous stupor, with no signs of mental activity, except occasionally replying yes or no to questions. He was apparently apathetic and was helpless as to his personal care, but permitted himself to be spoon-fed. Questioning under scopolamine anesthesia disclosed that his mind was quite receptive, since he

knew the day, month, year and place, also names of nurses and attendants in the hospital. His particular phobia was discovered and, in consequence, treatment was instituted by way of transferring him to quarters where he was actively occupied, and results were very satisfactory.

Another young man, thirty, declared, under scopolamine anesthesia, that chemicals were placed in the food, rendering it unfit for human consumption. He was then encouraged to eat substantial meals and to work. By obtaining, with the help of scopolamine, a clear conception of the false belief which had influenced his actions, the proper method of handling a difficult case was successfully determined.

These and other cases reported by Doctor Vessie are interesting in offering a method for disclosing inhibitions and phobias on the part of patients with slight mental disturbances and, in that manner, may serve to determine upon methods of treatment that are successful. Doctor House's discovery is attractive, to say the least, and its further development will be watched with a good deal of attention.

### THE ETIOLOGY OF GOUT

Gout has justly been called a riddle of the ages. Its origin and nature have been the subject of innumerable investigations from the time of Hippocrates to the present. Whatever theory of disease-causation happened to be in the foreground was applied to gout and, yet, up to the present time, no satisfactory solution has been discovered.

In the *New York Medical Journal and Medical Record* (Nov. 21, 1923), Dr. R. Llewellyn Jones Llewellyn presents a very interesting and quite detailed study dealing with the etiology of this puzzling affliction which visits high and low, the rich and the poor. He summarizes his views in an excellent manner as follows:

In attempting to summarize my views on this vast subject—the etiology of gout—I would remind you that Dale holds that sensitization (in anaphylaxis) is cellular and not humoral, in location. In other words, that, in vascular endothelial poisoning, the anaphylactic symptoms are not due to collision of the antigen and antibody in the blood stream. For, his researches show that the antibody is located in the cell, and that it is there, in the cell body itself, that the reaction with the corresponding protein or antigen occurs. Hence, the anaphylactic symptoms, possibly the result of intracellular precipitation.

On this basis, the pathological groundwork of gout resides in a tendency to cellular sensitization. The same may remain latent, but, once established, it will (given contact with the related protein or antigen) at any moment explode. The explosion takes the form of vascular endothelial poisoning and, as the same operates through the medium of local ischemia and venous stasis, it is not surprising that the clinical manifestations thereof should be extremely diverse. For, the symptoms will naturally vary with the regional distribution of the circulatory stasis, and the structure and function of the organ or tissue implicated.

If situated in a joint, it results in regular gout; if in the lung, asthma; if in the skin, urticaria or eczematous eruptions, viz., irregular gout. Accordingly, if we accept cellular sensitization as the basal pathological change in gout, and that the same achieves its malign effects through vascular endothelial poisoning, we seem to glimpse the inward meaning of the clinical mosaic presented by the regular and irregular manifestations of gout.

Incidentally, too, much of the mystery attaching to gouty metastases disappears, even the much maligned retrocedent gout becomes intelligible. Thus, if an acute gout in the toe suddenly aborts, and alarming gastric symptoms as suddenly ensue, viz., intense abdominal pain, collapse, vomiting, sometimes of blood, may not these gastric symptoms be due to a local endothelial poisoning, a gastrostasis?

Conversely, in those authentic instances where an aphasia, an amnesia or a hemiplegia disappears with the onset of frank gout, may not the cerebral symptoms be due to temporary stasis in the related cortical vessels?

Again, may we not find herein a facile and, no less, a rational solution of those many recorded examples in which a fleeting erythema or urticaria has, like a bout of asthma, vanished with the sudden outbreak of acute classical gout; or alternated therewith in that dramatic fashion so graphically portrayed by the older physicians, to whose masterly clinical insight modern research ever brings increasing tribute?

Lastly, it seems to me that this conception of the etiology of gout opens up an encouraging vista for more efficient and, I would fain add, more scientific therapy. May not skin-protein tests, if applied to the gouty, yield as rich a harvest of information as has already been gleaned in asthma? May not withdrawal of the offending protein, whether vegetable, animal or bacterial, prove as prophylactic in the one as in the other? May not our sheet anchor (colchicine) even act as a desensitizer? But, time and discretion alike forbid that I wander further in the regions of speculation.

May I then suggest the following points for discussion:

- 1.—Gout is purely hereditary.
- 2.—A tendency to cellular sensitization is the pathological groundwork of the disorder, viz., latent gout.
- 3.—The gout is evoked by the corresponding protein or antigen, whether animal, vegetable, bacterial, or other.

4.—It exerts its effects through the medium of vascular endothelial poisoning, with muscle tonus, especially of the bronchioles.

5.—The same finds its clinical expression in the regular and so-called irregular manifestations of gout, viz., arthropathies, eczema, urticaria, asthma, etc.

#### THE EFFECT OF MAGNESIUM SULPHATE ON BLOOD PRESSURE IN ACUTE NEPHRITIS

Blackfan and Mills, in the *Archives of Pediatrics* for July, 1923, state that, in studying the dehydrating action of calcium and magnesium salts in acute nephritis, they had observed there was a lowering of the blood pressure following the administration of magnesium sulphate. When a 2-percent solution of magnesium sulphate was given intravenously, in selected cases, the blood pressure promptly fell and remained at a low level for about five hours.

With the fall in blood pressure, the headache, visual disturbances and convulsions have abated. The injection is followed usually by diuresis, diaphoresis, or free catharsis. The procedure has had no apparent effect on the albuminuria or hematuria. The fall in blood pressure begins usually after the introduction of 15 to 20 Cc. of the solution. When introduced slowly at the rate of 10 Cc. per minute, the respiratory and cardiac rates are not changed. The total amount given at a single injection has not exceeded 10 Cc. per kilogramme body weight.

[We believe this method should be resorted to with caution.—Ed.]

Copied from *The Therapeutic Gazette*, December, 1923.

#### NEWSPAPER MEDICINE The Need of a Censor

A few months ago, *The Chicago Tribune* published an article which is reproduced here in toto.

"In the Connaught laboratory at the University of Toronto Dr. F. G. Banting, discoverer of insulin, is working on another discovery that bids fair to startle the medical world. Nothing is being announced regarding the new work, but *The Tribune* learns that a series of experiments on the suprarenal gland is being conducted.

"The suprarenal gland, of which little definite is known at present, provides a secretion of the greatest possible importance to the human system. Should this gland cease to function, the general tone of the system becomes so affected that death ensues. It is believed to have a great influence on the determination of sex, while its failure is also the cause of the fatal malady known as Addison's disease.

"Physicians have also lately come to the conclusion that many of the fatalities reported from diphtheria can be directly traced to the inactivity, or failure to act, of the suprarenal gland. The exact line upon which Doctor Banting is working is known only to himself.

"A series of experiments on the spleen of animals is also under way in the laboratory. These are supposed to be undertaken with the view of isolating the secretion and devising a serum for use in cases of pernicious anemia."

If the reporter's write-up had been submitted to the medical editor of *The Tribune*, Dr. W. A. Evans, he would have informed the reporter that the suprarenal glands have been studied intensively for a good many years and that one of the foremost authorities on glands of internal secretion, Dr. Charles C. deM. Sajous, attributed far-reaching and essential functions to these bodies as long as twenty years ago. The reporter's write-up is misleading in many ways and, therefore, gives an entirely erroneous impression.

It would be well if newspapers like *The Tribune*, that have on their staffs physicians of acknowledged standing and of known ability, would submit items dealing with medical matters to these medical editors and permit them to censor them. Much misinformation and misunderstood "news" might, in this manner, be corrected and the people be informed more nearly of things as they are rather than as the untrained reporter thinks they are.

There is another point in this item and that is, the question of newspaper publicity which is accorded as a matter of course to the lions of the profession. But, if lesser lights, such as ordinary general practitioners, were to procure newspaper write-ups of anything they have done, they would be declared guilty of unprofessional conduct and would be censored very severely by their medical societies. It's a funny thing that the big fellows can do things and be applauded for them when the little fellow is condemned for doing the same things. Doesn't seem quite fair, does it?

# Among the Books

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## MYERS: "CHEMICAL ANALYSIS OF BLOOD"

Practical Chemical Analysis of Blood. A Book Designed as a Brief Survey of This Subject for Physicians and Laboratory Workers. By Victor Caryl Myers, M. A., Ph. D. Second Revised Edition. Illustrated. St. Louis: C. V. Mosby Company. 1924. Price \$4.50.

The publishers of this useful work inform us that the first edition, which we announced in *CLINICAL MEDICINE* for February (p. 141) has been out of print for some time, and they sent a copy of the second edition which sells at a somewhat advanced price, asking us to make suitable announcement.

We regret that the review of the original treatise was delayed and are glad to enter the necessary correction. This second edition is larger than the first and contains several methods that had not been given before. To laboratory workers, the book offers a very useful and practical guide.

## RAIZISS AND GAVRON: "ORGANIC ARSENICAL COMPOUNDS"

Organic Arsenical Compounds. By George W. Raiziss, Ph.D., and Joseph L. Gavron, B.S. New York: The Chemical Catalog Company. 1923. 570 pages. Price \$7.00.

The reader, by merely glancing through this book, cannot fail to be impressed by the vast amount of work that has been done during the last twenty-five years in the synthesis of organic arsenical compounds. This work has been inspired chiefly by the desire to develop products of use in the treatment of disease and that have been responsible in large measure for the development of that branch of medical science called chemotherapy.

The book was written essentially for the use of the chemist. Following a chapter which gives a historical résumé of the field, the main body of the book is devoted to a presentation of the preparation and properties of virtually every organic arsenical reported in the literature to date. The compounds are grouped according to their chemical classes. A discussion of the general properties and methods of preparation of each class is given and this is

followed by a brief description of the individual compounds belonging to that class. Only in the case of a few extremely important products are detailed methods of preparation given. Extensive references to original articles make the book extremely valuable to the research worker.

Of particular interest to the biologist and physician is a chapter at the end of the book devoted to "The Chemotherapy of Organic Arsenicals" which describes in a clear precise manner the technic of toxicity and trypanocidal tests and the results obtained with some of the more common compounds.

The book is well put up, contains a very complete index, and reflects great credit both to the authors and to the American Chemical Society Monograph Series of which it forms a part. E. B. V.

## COX: "CAUSE AND CONTROL OF SEX"

The Cause and Control of Sex. By Cary S. Cox. Published by The Austin Publishing Co., Los Angeles, Calif. 1923. Price \$2.00.

According to the author: "If the parents desire only a girl child, then sexual intercourse should not be indulged in after the fifth day of this period of the two weeks.

"If a male child is desired, then no intercourse should be had until after the seventh day has passed, or until the ovum has obtained its full development."

In addition to the author's discussion concerning the control of sex, the little pamphlet contains several chapters dealing with birth control, with his views of life and other associated discussions on the power of mind over matter.

## SAINSBURY: "THE HEART"

The Heart as a Power-Chamber. A Contribution to Cardio-Dynamics. By Harrington Sainsbury. London: Oxford Medical Press. 1922.

Here is an attempt to bring together the facts of anatomy as observed in the dissecting room and the postmortem room along with the observations of physiologists as, in the



laboratory, they disclose the living principle working within the organs and tissues. While, after death, it may be difficult from mere postmortem dissection to determine the true significance of structure, the student must look for the evidence of past activities in the structures which death has brought to a standstill. "This," the author says, "will enable us to conjure back vitality and see it in possession, moving the whole organism, in all its parts, to a designed and cooperant end. Thus we shall visualize the organs and tissues dynamically, and to the extent to which we succeed in so doing our anatomy and pathology will become correspondingly living."

With this line of research, the author attempts to elucidate various circulatory puzzles, both in health and in disease.

#### "LA SCIENCE MODERNE"

J. B. Baillière et Fils, 19, rue Hautefeuille, Paris, France, have undertaken the publication of a popular scientific review which is to appear monthly in France, Belgium, Switzerland and Canada. The subscription price is fifty francs for countries outside of France.

The initial number, that for January, 1924, contains articles by Bigourdan, "The Problem of the Hour"; Olmer, "The Atoms"; Nicolardot, "The Present Status of Chemistry"; Lumière, "The Colloidal State and Life"; Wéry, "Stagnant Water and Rural Hygiene"; La Gavrian, "Road-making at the Present Time"; Broca, "Travel Accidents".

There are other articles than those enumerated. The new magazine is beautifully illustrated and we suggest that it will afford not only interesting information but also will be useful to those, young and old, who wish to keep up their French.

#### "THE PRESCRIBER"

The January issue of *The Prescriber* contains the customary "Year Book of Treatment", that is, a concise index of notable articles, arranged clinically, that had appeared in the most important medical journals. The sixty-four pages of text present a large amount of information which, of course, always needs to be supplemented by recourse to the original articles. For the student and for the bibliographic worker, this list of references is very useful.

We have often expressed our appreciation of *The Prescriber*. We wish to reiterate our

admiration for this excellent little journal which is published monthly at 6 S. Charlotte Street, Edinburgh, at an annual subscription price of twenty shillings post free.

#### "THE ROMANCE OF DIGITALIS"

The Hoffman-La-Roche Chemical Works, New York, published a small pamphlet in which the story of the discovery of digitalis and of its early clinical use is told attractively. It will be recalled that the position of foxglove in the materia medica is due to William Withering, an English physician who practiced in the last quarter of the eighteenth century. Those of our readers who have not received a copy of this pamphlet can undoubtedly obtain one by writing to the Hoffman-La-Roche Chemical Works.

#### AN OUTLINE OF RADIUM

A small pamphlet of thirty-three printed pages has come to us, entitled "An Outline of Radium and Its Emanations", a complete handbook for the medical profession, which is printed in a limited edition and is loaned, remaining the sole property of the publishers. The pamphlet is distributed by the National Radium Products Co., 280 Madison Ave., New York. It contains concise and condensed information on the internal therapy of radium which, it is claimed, has given successful results in high blood pressure, gout, arthritis and other conditions. The information is designed for the use of the general practitioner and is free from technical discussions.

#### THE ASSOCIATION OF LIFE INSURANCE PRESIDENTS

A report of the Seventeenth Annual Meeting of the Association of Life Insurance Presidents, held in the Hotel Astor, New York, December 6 and 7, 1923, is before us. A good many papers were read that are of interest to those more intimately concerned with insurance matters. For physicians especially, there are three papers, namely:

"Blood Pressure; What Affects It?" Mr. Arthur Hunter, Chief Actuary, New York Life Insurance Company, New York.

"The Story of Life and Death in 1923". Harry Toulmin, M. D., Vice-President and Medical Director, Penn Mutual Life Insurance Company, Philadelphia, Pa.

"Insulin in Its Relation to Life Insurance". Dr. George H. A. Clowes, Indianapolis, Ind.

### "THE REVIEW OF CLINICAL STOMATOLOGY"

*The Review of Clinical Stomatology* is a monthly journal devoted to the advancement of knowledge of diseases of the mouth and teeth, and is published as a supplement to *The Journal of Ophthalmology, Otology and Laryngology*. The subscription price is \$2.00 a year in advance, and checks are to be made payable to Dr. Geo. W. Mackenzie, 1724 Spruce St., Philadelphia, Pa.

The first issue of this new publication (December, 1923) makes up by its contents for the slowness of volume. In his Apologia, the editor, Dr. Alfred Asgis, announces that the purpose of the *Review* is an attempt to bring the study of diseases of the mouth from their peculiar position as a separate art into intimate relation with the whole field of medicine, and in this connection to publish a magazine free from the control of the manufacturers of mechanical dental accessories.

Reference is made to the indubitable role played by focal infections in the mouth in their causal relation to systemic diseases. Other relevant subjects are mentioned by the editor and, altogether, he presents a justification for the issuing of a new periodical that can not but appeal to us.

The list of editors and of collaborators contains names to conjure with, and we feel certain that the new periodical will fill a place (that undoubtedly exists for it) very acceptably.

### ABDERHALDEN'S "ARBEITS-METHODEN"

It will be recalled that Professor Emil Abderhalden's notable *Handbuch der biologischen Arbeitsmethoden* (Handbook of Biologic Technics) is being published in a new edition by Urban and Schwarzenberg, medical publishers, in Berlin and Vienna. The parts that have recently been sent to us for review are the following:

Abt. IX, Tl. 3, Heft. 1. Vererbungsfor-schung, 9 francs, Swiss. This fascicle of 210 pages of text contains articles on the methods of investigating problems of constitution; the transmission of acquired characteristics; experimental research in variations; hereditary transmission in man, and methods in the study of families.

Abt. IV, Tl. 3, Heft. 3. Blutuntersuchungen (studies of the blood). The 174 pages of this fascicle are devoted to the chemical and phy-

sical methods of blood study. The price is 7.50 francs. Swiss.

Abt. IV, Tl. 5, Heft. 2. Untersuchungen des Harns (examination of the urine). In this fascicle methods are presented for the determination of acetone, acetic acid and beta-oxybutyric acid; also for the determination of acetaldehyde in the urine. The price of this fascicle is 3.75 frs. Swiss.

Abt. IV, Tl. 6, Heft 1. Verdauungsapparat (digestive apparatus) is a volume of 462 pages, costing 19.90 frs. Swiss. The contents are: examination of the saliva; examination of the human feces; quantitative analysis of fecal ash; intestinal gases; examination of the gastric contents. It is to be kept in mind that the collaborators contributing the separate chapters and articles to this remarkable work are among the leading specialists in their respective fields. To the student, and especially to the research worker, Abderhalden's "Biologic Methods" is indispensable.

### MARLE: "KLINISCHE MEDIZIN"

Einführung in die klinische Medizin. Eine kurze Darstellung ihrer Grundbegriffe für Studierende. von Walter Marle. 1. Band. Allgemeine Pathologie; Klinische Mikrobiologie und Immunitätslehre; Allgemeine Untersuchungsmethodik und Diagnostik; Allgemeine Therapie. Berlin und Wien: Urban & Schwarzenberg. 1924. 10.15 Frs. Swiss.

This introduction to clinical medicine is intended especially for students entering their clinical courses. The physician also, especially the general practitioner, who desires to review his methods of examining his patients, will find this volume very useful.

### CHICAGO DEPARTMENT OF HEALTH

The Commissioner of Health of the Department of Health, City of Chicago, has submitted a report of the activities of the department for the year 1922. It is a volume of 448 pages and contains a graphic account of the activities of the health authorities in one of the world's largest cities.

### "ROCKEFELLER FOUNDATION"

The Annual Report for 1922 of The Rockefeller Foundation contains a president's review of work accomplished during the year which, as is well known, concerns physicians inti-

mately inasmuch as the foundation has done and is doing much for medical education and for public health. The reports of the secretary, the treasurer, the general director of the international health board, the director of the China medical board, the general director of the division of medical education follow. The book is copiously illustrated and contains much interesting information.

### "INTERNATIONAL CLINICS"

From the many articles contained in Vol. 3, of the thirty-third series (1923) of the "International Clinics," we mention: "What Can and What Can Not Be Done to Prevent Falling of the Hair." "Roentgen Rays as a Diagnostic Aid to the General Practitioner." "Some Notes on Thyroid Therapeutics." "Therapeutics of Pain." "Bacillus Coli Infection in Children." "Diagnosis of Renal Tuberculosis."

Vol. 4 of the same series contains a symposium on gastrointestinal ulcers, made up of four notable articles. Other important communications are: "The Influence of Inter-current Diseases Upon the Course of Certain Psychoses." "What Should a Physician Know of the Psychology of Childhood?" "Treatment of Fractures of the Lower End of the Radius." "The Interpretation of Dreams and the Analysis of the Unconscious." "Prophylaxis for Medical Fads." "Pathogenesis and Prognosis of Eye Complications in Diabetes."

The "International Clinics" comes out in handsome quarterly volumes containing illustrated clinical lectures and especially prepared original articles on all phases of medical practice. The publishers are J. B. Lippincott Company, Philadelphia and London. The price per volume is \$2.50.

### MEDICAL CLINICS OF NORTH AMERICA

The Medical Clinics of North America. January, 1924. University of Kansas Number. Philadelphia: W. B. Saunders Company. Published bi-monthly (six numbers a year). Price per year \$12.00.

The January, 1924, number of *The Medical Clinics of North America* is the University of Kansas Number. The content of the twenty-

one clinics published in it testifies to the diligent work being done in these clinics. We pick out at random: Two Cases of Hemiplegia, with Recovery, Probably due to Infection in the Nasal Accessory Sinuses. The Differential Diagnosis Between Beginning or Low-grade Hyperthyroidism and the Exhaustion of the Body Due to Focal Infections. The Effect of High Fat Feeding in Diabetes. The Care of Premature Twins and Triplets. A Case of Tetanus, with Recovery. Neglected Factors in the Treatment of Syphilis. A Severe Case of Allergy due to Fish Glue. Immunization Against Measles with Convalescent Serum.

### THEWLIS: "GERIATRICS"

Geriatrics. A Treatise on the Prevention and Treatment of Diseases of Old Age and the Care of the Aged. By Malford W. Thewlis, M. D. Second Edition, Revised and Enlarged. St. Louis: C. V. Mosby Company. 1924. Price \$4.50.

Doctor Thewlis' treatise on geriatrics is familiar to our readers, the first edition having been reviewed a matter of four years ago. In the present, second, edition, we are informed, several chapters have been added, the most important being Electrotherapy, Opthotherapy, Senile Heart Disease, Asthma, Emphysema, Influenza, Rheumatism, Pruritus Senilis and Hepatic Cirrhosis.

The importance of the problems of diseases of old age, their prevention and treatment, is being recognized more and more. It possesses a good deal of interest, as all those physicians realize who have been enabled to relieve the ailments of their aged patients. The Reviewer has often consulted Thewlis' work and always with benefit.

### TIMME: "ENDOCRINOLOGY"

Lectures on Endocrinology. By Walter Timme, M. D. Illustrated New York: Paul B. Hoeber. 1924. Price \$1.50.

This is a reprint of an article that had appeared in the *Neurological Bulletin* for January, 1921. It considers, after a brief introduction, the thymus gland, the pineal gland, the thyroid gland, the suprarenal gland, the pituitary gland, the gonads. The book is small but gives a great deal of salient information and will serve beautifully as a first reader in endocrinology.